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The University of Chicago Booth School of Business

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**Implications for GAAP from an
Analysis of Positive Research in Accounting**

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Implications for GAAP from an Analysis of Positive Research in Accounting

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Abstract

Based on extant literature, we review the positive theory of GAAP. The theory predicts that GAAP's principal focus is on control (performance measurement and stewardship) and that verifiability and conservatism are critical features of a GAAP shaped by market forces. We recognize the advantage of using fair values in circumstances where these are based on observable prices in liquid secondary markets, but caution against expanding fair values to financial reporting more generally. We conclude that rather than converging U.S. GAAP with IFRS, competition between the FASB and the IASB would allow GAAP to better respond to market forces.

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Implications for GAAP from an Analysis of Positive Research in Accounting

1. Introduction

Financial reporting standard setting is in the midst of at least three major initiatives, which collectively could result in a sea-change in financial reporting. First, significant controversy surrounds the degree to which fair values should serve as a basis for financial reporting. The U.S. Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) favor the expanded use of fair values in financial statements and a movement away from the traditional modified historical cost basis of financial reporting.¹ The expanded use of fair values is intended to provide financial information useful for firm valuation, which is implicitly assumed to be the primary objective of financial reporting standards. This has generated debate over the objectives of accounting standards, the economic underpinnings of fair value accounting, and the consequences of the increased use of fair values in financial reporting.

Second, in the aftermath of spectacular accounting scandals at Enron, WorldCom, and other companies, and the financial crisis of 2008–09, some argue that U.S. Generally Accepted Accounting Principles (GAAP) should move towards the use of “principles-based” accounting standards, rather than specifying detailed accounting “rules.”²

¹ Barth (2006, p. 98) states that “In almost every standard-setting project of the FASB and IASB, the boards consider fair value as a possible measurement attribute.” This includes the conceptual framework. Also see Johnson (2005) describing the FASB’s increasing use of fair value measurements in the preparation of financial statements, and Schipper (2005).

² See, especially, the Securities and Exchange Commission’s (SEC) report on this topic (SEC, 2003) prepared in response to provisions of the Sarbanes-Oxley Act, and as an example, the FASB’s proposal to eliminate industry-specific practices in revenue recognition (Schipper, Schrand, Shevlin, and Wilks, 2009).

Finally, the FASB and IASB are committed to the convergence of U.S. GAAP with International Financial Reporting Standards (IFRS) as part of a “shared objective of developing high quality, common accounting standards for use in the world’s capital markets” (IASB, 2008a, p. 5). The ongoing collaboration between the FASB and IASB could lead to a single global standard setter within the next decade.

These initiatives have far-reaching implications for the form and substance of financial reporting, with attendant economic consequences. The financial crisis of 2008–09 has imparted a sense of urgency as well as a political will for changing the institutions of accounting practice. If financial reporting is on a precipice of change, a critical review of the academic literature to distill implications for financial reporting standards would be timely. A number of excellent reviews and commentaries with varying degrees of breadth and focus precede our effort. These include Watts and Zimmerman (1986), Lambert (1996), Ball (2001), Barth, Beaver, and Landsman (2001), Healy and Palepu (2001), Holthausen and Watts (2001), Watts (2003a, and b, and 2006), Schipper (2005), and Barth (2006). Rather than provide a chronological survey of the literature, we build on these reviews by embedding a survey into an economic analysis of the properties of GAAP and by discussing specific implications of the research for GAAP and the nature of GAAP standard setting. Consistent with (much of) previous research, as well as the Securities and Exchange Commission (SEC), FASB, and IASB, we assume throughout that the objective of GAAP is to facilitate the efficient allocation of capital in an economy. (We expand on this assumption below.) We refer to the collective properties of GAAP as distilled from the review of positive research in accounting as economic GAAP or the economic view of GAAP.

We draw on the large body of research into the demand for and supply of financial information in capital markets to describe a parsimonious economic theory of GAAP. We then

use the theory to discuss implications for the nature of accounting practice and the role of standard setting in directing such practice.

1.1 Objective of GAAP

The theory of GAAP implicit in the economics-based accounting literature is premised on the idea that the objective of GAAP is to facilitate efficient capital allocation in the economy.³ “Efficient capital allocation” means capital flows to its most highly valued use. It is also synonymous with economic efficiency, which maximizes value. The assumption that GAAP facilitates efficient capital allocation implicitly or explicitly underlies the stated objectives of regulators like the SEC,⁴ standard-setters like the FASB,⁵ and virtually all economics-based analyses of financial reporting and disclosure. In describing the objectives of financial reporting and disclosure, Healy and Palepu (2001, p. 407) state, “Information and incentive problems impede the efficient allocation of resources in a capital market economy. Disclosure and the

³ GAAP can facilitate efficient capital allocation by lowering transaction and information costs between suppliers and users of capital (e.g., Watts and Zimmerman, 1986, Healy and Palepu, 2001, and Core, 2001). For example, GAAP can lower the costs of becoming reliably informed about the economic prospects of firms, thus encouraging greater participation by private investors in equity and debt markets.

⁴ “The mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation. ... the SEC requires public companies to disclose meaningful financial and other information to the public. This provides a common pool of knowledge for all investors to use to judge for themselves whether to buy, sell, or hold a particular security. Only through the steady flow of timely, comprehensive, and accurate information can people make sound investment decisions. The result of this information flow is a far more active, efficient, and transparent capital market that facilitates the capital formation so important to our nation’s economy.” (See SEC website <http://www.sec.gov/about/whatwedo.shtml>.)

⁵ “Our financial reporting system is essential to the efficient functioning of the economy. That is because it is the means by which investors, creditors, and others receive the credible, transparent, and comparable financial information they rely on to make sound investment and credit decisions.” (See FASB website <http://www.fasb.org/facts/index.shtml>.)

institutions created to facilitate credible disclosure between managers and investors play an important role in mitigating these problems.”⁶

While the assumption that GAAP is intended to facilitate efficient capital allocation is uncontroversial, it has often been interpreted narrowly in standard setting. Some standard-setters and academics (e.g., Schipper, 2005) interpret this objective to mean providing accounting rules that generate financial statements that provide “direct valuation” of a firm (see Holthausen and Watts, 2001, for an extensive bibliography of research that implicitly or explicitly assumes direct valuation as the objective of GAAP). The valuation objective of GAAP implies the primary purpose of financial statements is to provide valuation information to equity investors, i.e., a valuation or “information” focus.

Consistent with a valuation objective, in their analysis of the literature on earnings quality, Francis, Olsson, and Schipper (2006, p. 262) “take a capital allocation view...as opposed to a contracting or stewardship view.” They rationalize the valuation objective as stemming “from the view that the capital market uses of accounting information are fundamental, in the sense of providing a basis for other uses, such as stewardship” (p. 259). Schipper and Vincent (2003) analyze earnings quality “from a Hicksian income perspective, following the idea that earnings should faithfully represent changes in wealth” (Francis et al., 2006, p. 263). Barth, Beaver, and Landsman (2001, p. 78) also adopt this narrower interpretation of GAAP objectives on grounds that “a primary focus of the FASB and other standard setters is equity investment” while recognizing other uses of financial statements “beyond equity investment, e.g., management compensation and debt contracts.” Holthausen and Watts (2001) offer a

⁶ As another example, Hail, et al. (2009, p. 66) note: “A key role of accounting standards is to reduce the economy-wide transaction costs of communicating information among various stakeholders, allowing them to make more efficient real decisions and undertake transactions within, outside, and between firms.”

compelling critique of the research that assumes or asserts “direct valuation” as the standard-setting objective.⁷

Our analysis of the economics-based literature presupposes neither a valuation objective nor an efficient contracting objective, as defined below. The analysis instead concludes that starting with the objective of GAAP as facilitating the efficient allocation of capital, the demand for and supply of accounting information are *as if* the primary objective of audited financial reporting is to serve as a “control” system for the firm (and the economy), i.e., to provide information useful for performance evaluation and stewardship, which is also referred to as efficient contracting (see Holthausen and Watts, 2001, Ball, 2001 and 2006, and Watts, 2006). That is, performance evaluation and stewardship are not the assumed objectives of financial reporting; instead, they emerge as a consequence of economic forces shaping a GAAP designed to facilitate efficient capital allocation.⁸ Information for performance evaluation is generated primarily through longstanding practices in GAAP that define “income” for a given period; while information about stewardship results from well-established GAAP practices that capture the status of capital employed through a detailed accounting for the firm’s assets and liabilities. Stewardship is defined as the role of the accounting system in ensuring that a firm’s invested

⁷ In researching whether equity valuation is the dominant role of financial reporting, Holthausen and Watts (2001, p. 13) state “... we investigate whether the standard-setting and accounting theories used in the value-relevance literature can explain observed accounting practice. The objective is to provide evidence on the descriptive validity of the literature’s underlying theories of standard setting and accounting. We identify some important characteristics of current accounting practice (for example, conservatism) that are not explained by the theories of accounting and standard setting used in the value-relevance literature. This raises questions about the literature’s underlying theories of standard setting and accounting, for example the dominance of the equity valuation role of accounting numbers. We discuss a number of uses of accounting reports, extant in the more general accounting literature, that have the potential to explain characteristics of observed practice. This is important because the value-relevance literature alone is not likely to be very informative to the standard-setting community.”

⁸ This conclusion is consistent with the historical evidence on the evolution of GAAP (e.g., Holthausen and Watts, 2001).

capital is maintained in such a way as to preserve the economic interests of stockholders and bondholders.⁹

The performance evaluation and stewardship properties of audited financial statements serve as incenting and monitoring mechanisms to address the two principal agency conflicts arising from the separation of ownership and management, i.e., underinvestment due to shirking and asset substitution from excessive risk taking (e.g., Jensen and Meckling, 1976, Holthausen and Watts, 2001, and Brickley, Smith, and Zimmerman, 2004). In the process, financial reporting is expected to generate measures (such as earnings) that also tend to be useful for equity valuation, but the latter does not emerge as the primary objective of financial reporting.

The fundamental agency relationships that characterize corporations (Jensen and Meckling, 1976), especially the relationships between shareholders and management and between shareholders and debt holders, mean that users demand and firms supply financial reporting that possesses attributes such as (i) conservatism, (ii) a balance sheet that includes only those assets under firm control that are separable and salable, and (iii) an income statement that provides a reliable measure of management performance. These features, as described in detail in Section 2, imply that financial statements prepared under an economic GAAP do not necessarily possess direct equity valuation properties (see Holthausen and Watts, 2001). Instead, the evolution of the properties of financial statements is consistent with efficient contracting, i.e., performance measurement and stewardship. However, the primacy of performance measurement and stewardship does not imply that accounting information is not value relevant or that it

⁹ Watts (1977, pp. 62–63) defines stewardship as follows: “The idea that the purpose of accounting is to check the honesty and reliability of agents is called the ‘stewardship’ concept in the accounting literature.” Demand for information on stewardship results in a balance sheet that approximates the lower bound of recoverable value of the firm’s invested capital. Period-to-period changes in the recoverable value provide an indication of the risk exposure on invested capital. The level of the recoverable value is a signal to capital owners on whether to exercise their abandonment option. See also, Holthausen and Watts (2001).

conveys no information about equity values. Overwhelming evidence dating back to Ball and Brown (1968) shows that accounting information is contemporaneously positively correlated with security prices, and thus is useful in valuation. The valuation-relevant information in financial statements is due in part to the fact that such information is correlated with the information sought by various contracting parties and supplied in financial statements.

We note three caveats with respect to the objective of GAAP as defined in our review. First, the discussion below assumes that those with the power to regulate accounting standards (such as the SEC) seek to do so with the stated objective of facilitating efficient capital allocation. Regulators and standard setters may not always act to further efficient capital allocation because of political pressures, their own private incentives, or misunderstandings, but efficient capital allocation is the stated goal. In practice, regulators and standard setters can also have objectives such as the protection of relatively unsophisticated investors (e.g., the SEC's mission statement), but an analysis that incorporates such multiple objectives is beyond the scope of the review for reasons discussed in Section 2.

Second, the entire analysis assumes “second-best” conditions, i.e., it is assumed that complete contracting outside of GAAP is too costly to be feasible. In fact, several critical features of GAAP have evolved because transactions and information costs are economically significant and so preclude “first-best” solutions that would eliminate agency problems. As early work in the positive accounting theory paradigm emphasizes (e.g., Holthausen and Leftwich, 1983), economically material market frictions are what cause accounting rules to have economic consequences. As discussed in Section 2, the economic importance of market frictions such as transaction and information costs is at the heart of the debate between the primacy of efficient contracting versus the valuation perspective in furthering the efficient allocation of capital.

Advocates of a valuation perspective on standard setting, with a corresponding emphasis on fair values, favor that perspective largely because they see market frictions as being of second order importance. While they acknowledge the existence of these frictions, the conclusion that fair values are the appropriate measurement basis for many balance sheet items is logically based on arguments that ignore or minimize the importance of market frictions and the effect of information asymmetries and associated agency problems among the various contracting parties inside and outside a corporation. Ultimately, however, the impact of market frictions on standard setting is an empirical issue. The theory of GAAP implicit in the economics-based literature explains and predicts many accounting conventions that have long-run survival value in financial reporting (conservatism and verifiability being obvious examples) and that are consistent with an efficient contracting perspective but not a valuation perspective (see Holthausen and Watts, 2001). This suggests market frictions cannot be viewed as immaterial in standard setting debates.

Finally, the review begins with the objective of GAAP and describes the properties of GAAP that would maximize the objective. This approach differs from the approach in, for example, Watts and Zimmerman (1986), Holthausen and Watts (2001), Ball (2001), and Watts (2003a, b, and 2006). They analyze the historical evolution of GAAP that dates back to the pre-regulation or the pre-SEC periods. These analyses conclude that the properties of GAAP are consistent with the primacy of the efficient contracting perspective. We reach the same conclusion by drawing upon the extant literature, but the analysis is not presented as a historical evolution of GAAP. Instead the analysis describes a thought experiment in which we assume a certain objective for GAAP (i.e., efficient capital allocation), and then, by drawing upon the extant literature, provide an economic derivation of the properties of GAAP that are likely to

maximize the assumed objective. The review thus explicitly allows for the possibility that the valuation perspective might best allow GAAP to maximize its objective, but instead *concludes* that a performance measurement and stewardship view is likely to be demanded for and supplied in equilibrium, given the assumed objective.

1.2 Positive vs. normative analysis

In summarizing the implications of extant research for GAAP, we run the risk of being interpreted as making normative prescriptions. That is not our intent. Our analysis is primarily positive in that it simply summarizes conclusions from the literature about those properties of GAAP that best facilitate the efficient allocation of capital. The analysis is in the spirit of Friedman's (1953) view of positive economics, which Gould and Ferguson (1980, p. 3) summarize as: "The business of an economist is a positive, not a normative, one. That is, given a social objective, the economist can analyze the problem and suggest the most efficient means by which to attain the desired end." Similarly, Jensen (1983, p. 320) explains that policy questions are best answered with "knowledge of a wide range of positive theory," which is what we hope to provide.¹⁰ Watts and Zimmerman (1986, Chapter 1, original emphasis) explain how an exercise such as ours can be positive, not normative:

"Prescriptions require the specification of an *objective* and an *objective function*. For example, to argue current cash equivalents should be the method of valuing assets, one might adopt the objective of *economic efficiency* (i.e., the size of the economic pie available) and specify how certain variables affect efficiency (the objective function). Then one could use a theory to argue that adoption of current cash equivalents will increase efficiency. Theory provides a method for assessing this *conditional* statement (i.e., do we observe that adoption of current cash equivalents increases efficiency?). But theory does not provide a means for assessing the appropriateness of the objective. The

¹⁰ Also, Watts (1977, p. 54) notes: "The development of prescriptions and the development of theory are not incompatible. The development of prescriptions which are likely to achieve their objectives requires an underlying theory which explains observed phenomena: which predicts the effects of particular prescriptions."

decision on the objective is subjective, and we have no method for resolving differences in individual decisions.”

1.3 Economic theory of GAAP from the literature

We begin with some definitions and clarifications. Throughout the paper, “GAAP” refers to the set of accounting principles that govern the preparation of audited financial statements. By definition, the analysis assumes auditing is necessary for the existence of “GAAP.” In other words, in describing the economic theory of GAAP, the existence and nature of auditing, including the institutions that facilitate a competitive equilibrium in auditing, are assumed to exist exogenously. In contrast, publicly regulated standard setting is not necessary for GAAP, i.e., economic GAAP can arise through best practices in competitive markets (see Section 4). Further, the economic view of GAAP presupposes the existence of institutional features generally assumed to hold in the U.S. These include: courts’ ability to enforce contracts, laws against self-dealing, and separation of tax reporting from financial reporting. Assuming different institutional features would likely alter predictions about the properties of GAAP that would best facilitate the efficient allocation of capital (e.g., see Ball, Kothari and Robin, 2000, for the effect of variation in economic institutions on GAAP). Therefore, the discussion and conclusions herein when applied internationally must be interpreted in the context of local non-GAAP institutions.

In Section 2, our discussion of the critical properties of GAAP financial statements begins with a simple scenario of an all-equity firm in which shareholders are the principals and managers are their agents. In this principal-agent setting, we first assume that managers truthfully report performance according to a specified GAAP, i.e., concerns about the credibility of reporting between managers and shareholders are assumed away, or that information

asymmetry is assumed to be absent. The analysis in this setting suggests that income measurement, i.e., GAAP, focuses on observable outputs rather than effort because of the inherent difficulties of measuring managerial effort and estimating the future consequences of that effort (e.g., Holmstrom, 1979). Expanding the analysis to include the agency problem with respect to financial reporting, i.e., credibility of management's reporting of financial performance, results in additional properties of GAAP, including verifiability (see Lambert, 1996, Ball, 2001, and Watts, 2006). To rein in management's incentive to favorably skew the financial statement measures of performance, GAAP defers the recognition of revenue until management has exerted substantial effort (to prevent moral hazard), and immediately expenses costs when the associated benefits are sufficiently uncertain (e.g., research expenditures; see for example, Watts and Zimmerman, 1986, Kothari et al., 2002, and Skinner, 2008a). Additionally, GAAP requires managers to recognize the effects of bad news immediately in earnings because failing to do so puts shareholders at risk of asset substitution by managers (e.g., Basu, 1997; Ball et al., 2000, Watts, 2003a).

The analysis is further expanded from an all-equity setting to include debt in the firm's capital structure. The introduction of debt holders leads to additional agency problems affecting the nature of accounting rules. The latter effects arise in part because debt holders demand periodic financial information about the value of assets available to them in liquidation and information about the firm's ability to make promised interest payments. Agency conflicts between shareholders and debt holders push financial reporting further towards verifiability and conditional conservatism, which enhance the stewardship property of financial statements.

1.4 Implications for the structure of GAAP

Section 3 discusses the implications of the positive theory of GAAP for the structure of GAAP financial statements, focusing principally on income statement and balance sheet recognition and measurement issues. Information asymmetry and agency problems between various contracting parties in the firm (including managers, equity holders, and debt holders) result in an equilibrium demand for audited financial statements that provide information useful for evaluating (i) management performance (the income statement) and (ii) management stewardship of the firm's assets (the balance sheet). Because the properties of the income statement and balance sheet are different, dirty surplus accounting is a necessary feature of financial statements.¹¹

Revenue recognition rules under GAAP are likely to focus on observable outputs (i.e., revenue is “realizable”) from management effort that has already been expended (i.e., revenue is “earned”). In contrast, the consequences of unrealized effort and proposed management actions are unverifiable and thus not recognized in earnings even though those might be reflected in security prices. The implication is that a performance statement where income is defined as the one-period change in fair-value-based net asset values is unlikely to have survival value.

We show that conventional asset recognition criteria can be explained by the role of the balance sheet as a control system. Assets are recognized when (i) property rights (i.e., claims to the benefits of ownership) are well-established, (ii) there is sufficient certainty about future realizations of cash flows to the entity, and (iii) asset values are not substantially dependent on future management effort. By specifying that property rights be well-established, we require that

¹¹ The fact that we see the income statement and balance sheet as serving related but distinct roles is discussed further in Section 2, and is a matter of degree. Because modern GAAP is primarily concerned with corporations where ownership and control are separated, the income statement's primary role is measuring management performance, while the balance sheet's role is primarily related to the stewardship of the entity's net assets. In other types of businesses (such as smaller, private firms with dominant owner-managers) more basic agency problems such as perquisite consumption are likely to be of greater concern, so that the emphasis of both financial statements is on stewardship of the entity's net assets.

an asset is under an entity's control and is separable and saleable. The requirement for sufficient certainty about future cash flows recognizes that there is a continuum of cash-flow uncertainty associated with all expenditures and that the criterion for asset non-recognition in GAAP financial statements is a discrete point along this continuum where accountants, auditors, regulators, and the courts determine the uncertainty to be unacceptably high for stewardship and contracting purposes (e.g., Kothari et al., 2002, Skinner, 2008a, and Ramanna and Watts, 2009). The limit on recognizing assets whose values depend on future management effort (e.g., goodwill) recognizes the moral hazard that arises from using these types of assets as collateral.

We discuss the implications of the asset recognition rules for contemporary issues such as the capitalization of internally developed intangibles, the recognition of acquired goodwill, and the retention of securitized assets. Many internally generated intangibles (e.g., research efforts) have highly uncertain cash flow realizations and little or no value under liquidation; in such circumstances, capitalization is inappropriate under the economic view of GAAP (Skinner, 2008a). The case for recognizing acquired goodwill is even more tenuous from a stewardship perspective since its value is largely dependent on future management actions and changes in the value of the goodwill over time are not verifiable.¹² For asset securitizations, the key determinant of whether corresponding obligations can be moved off-balance sheet is whether these are 'with recourse' transactions. Securitizations of this type (popular in the period leading up to the 2008–09 financial crisis) do not represent a true sale of assets, so their non-recognition is indicative of a failure of extant GAAP to provide a balance sheet that meets the economic demands of shareholders and bondholders seeking to manage agency conflicts. The FASB is

¹² Goodwill may nevertheless be recognized under the economic view of GAAP if subsequent goodwill amortization and impairment serve as a means to hold management accountable for past acquisitions, i.e., for control purposes. See Section 3.

currently revising the rules for these types of transactions in an attempt to prevent further off-balance sheet treatment.

The economic view of GAAP implies that assets and corresponding obligations be recognized in financial statements if the entity can exercise a greater degree of economic “control” over those assets than any other entity. This observation has implications for the current debate on the recognition of contingent obligations, and in particular obligations that are likely to generate extreme losses in certain unfavorable states of nature (such as losses at AIG from settling insurance claims over investments in subprime assets). In circumstances where the full amount of loss in a worst-case scenario is not recognized, it is likely that shareholders and debt holders will demand information about extreme adverse outcomes through supplemental disclosure in financial statement footnotes.

We also address the issue of asset measurement and re-measurement, i.e., the basis for accounting records. Use of fair values in circumstances where these are based on observable prices in liquid secondary markets is consistent with economic GAAP, but such markets do not exist for many assets and liabilities. In the absence of verifiable market prices, fair values depend on managerial judgments and are subject to opportunism. Accordingly, we caution against expanding fair-value measurements to balance sheet items for which liquid secondary markets do not exist.

1.5 Implications for the future development of GAAP

In Section 4, we discuss implications of the theory for the future development of GAAP. We focus on (i) the role of regulation in determining GAAP; (ii) the role of choice within GAAP; and (iii) the merits of market efficiency as the maintained hypothesis in standard setting.

The study of the regulation of GAAP is important for our purposes because it can explain the nature of accounting standards produced by the FASB and can predict how different standard setting alternatives are likely to affect what GAAP will look like in the future. We organize our discussion of these issues (i.e., why is GAAP regulated, and what regulatory structure is most likely to generate an economic GAAP) around the three theories of regulation: public interest, capture, and ideology theories.

Under public interest theory, regulation is the response of benevolent and omniscient policy makers to “natural” market failures. The four common market failures discussed in the regulation literature are natural monopolies, externalities, information asymmetries, and excess competition.¹³ We conclude that underproduction of accounting standards due to externalities is the only one of these that can plausibly justify the regulation of GAAP. In practice, regulation is more adequately described by the capture or ideology theories because there is little empirical support for the model of a benevolent and omniscient policy maker. Under the capture theory, GAAP regulation is the result of accountants’ and auditors’ attempts to socialize the expected costs of producing standards, which include reputational loss and legal liability. The resulting standards are unlikely to yield efficient capital allocation. Regulated GAAP as a product of the ideology theory is the combined result of special interest lobbying and standard setters’ ideologies about accounting principles, which is not necessarily optimal in facilitating efficient capital allocation. We conclude that competition among standard setters is the most effective means of addressing the concerns over a regulated GAAP highlighted by the capture and ideology theories; moreover, competition is likely to generate GAAP rules that facilitate efficient capital allocation. The practical implication is for the FASB and IASB to compete rather than

¹³ See, for example, Breyer (1982). Leftwich (1980) discusses fallacies in market failure justifications commonly used in accounting.

join forces to form a global monopoly, because a single globally dominant standard setter is likely to be susceptible to political and ideological capture.¹⁴ Moreover, its standards are unlikely to satisfy heterogeneous political and economic demands across countries, ultimately resulting in IFRS devolving into country- or region-specific IFRS rules (as currently observed in the EU, China, and elsewhere).

On the role of choice within GAAP, we conclude that while regulated GAAP necessarily limits accounting choice, regulators still have considerable flexibility to determine how much judgment managers, boards, accountants, and auditors have in preparing financial statements. We view accounting choice as critical to encouraging innovation in and efficiency of accounting practice, and in general support empowering boards, managers, accountants, and auditors to determine best practices in accounting. We also address the contemporary debate about “principles” versus “rules” and explain why this comparison, while meaningful to an extent, over-simplifies the issues. A principles-based regime, while desirable, is unlikely to be sustainable in practice because the day-to-day applications of accounting principles are usually made through working rules (see Benston et al., 2006). The critical distinction for an efficient GAAP is that such rules represent common practice and they do not in themselves preclude alternative practices that are likely to generate innovation in accounting.

Finally, we address the role of the market efficiency assumption in standard setting. Standard setters’ perspective on the efficiency of capital markets with respect to accounting information is an important consideration in how they craft GAAP because it affects their views about fundamental financial reporting issues such as recognition versus disclosure. We discuss

¹⁴ We also discuss the possibility of bundling GAAP rules with other securities regulation at the exchange level, partially internalizing the costs and benefits of standard setting.

why, for both conceptual and practical reasons, it behooves standard setters to maintain the market efficiency assumption.

In Section 5, we summarize the paper and discuss directions for future research.

2. An economic theory of GAAP: Expected properties

We develop an economic theory of GAAP based on a large body of prior literature. This research includes Gonedes and Dopuch (1974), Jensen and Meckling (1976), Myers (1977), Watts (1977, 2003a and b, and 2006), Watts and Zimmerman (1978, 1979, 1983, 1986), Smith and Warner (1979), Beaver (1981, 1989, and 1998), Basu (1997), Ball, Kothari, and Robin (2000), Ball (2001 and 2006), Healy and Palepu (2001), Shleifer (2005), among many others, although some of the ideas have origins that reach further back into the past. For ideas that appear in multiple places over a long period of time, we attempt to attribute the ideas to original contributors, but often also reference subsequent contributors/extensions to facilitate understanding of the evolution of the literature. Our goal is to succinctly summarize the economic theory of GAAP that emerges from the literature.

The demand for and supply of financial information in capital markets facilitate the exchange of resources and the enforcement of contracts among various parties (hereafter referred to as stakeholders) that include shareholders, bondholders, boards, management, employees, suppliers, customers, auditors, and regulators (e.g., Jensen and Meckling, 1976, Watts and Zimmerman, 1986, and Healy and Palepu, 2001). This role of financial information has existed in periods preceding the government-regulated supply of corporate financial information, i.e., before the creation of the Securities and Exchange Commission (SEC), as well as in the type of regulated environment that currently exists in the U.S. and elsewhere.

The quality and quantity of the available financial statement information in an economy influence the efficiency of resource allocation and the cost of capital (i.e., management of risk). Optimal allocation of resources and minimizing the cost of capital, holding constant a project, are equivalent to value maximization in an economy. One stated motivation for the regulation of corporate financial information is that due to market imperfections (e.g., transaction costs) and the public-good nature of financial information, the quantity of financial information produced is suboptimal.¹⁵ This adversely affects social welfare in that resource allocation is less efficient than it could be and the cost of capital is higher than it could be, necessitating regulation. In addition, the regulation of financial information is motivated by concern for the average, uninformed or unsophisticated investor.¹⁶

A large literature examines whether the stated motivations and justifications for the regulation of financial information are well founded (see Leftwich, 1980, for an early treatment of the topic, Leuz and Wysocki, 2008, for a recent review, and Section 4 below). For pragmatic reasons, we sidestep this issue in this section and ask, what are the properties of GAAP, regulated or not, that would fulfill the objective of facilitating efficient allocation of capital in an economy? Later, in Section 4, we explain the various rationales for regulation of GAAP in the context of different theories of regulation, and discuss the implications of those theories for the nature of GAAP.

¹⁵ One motivation for the creation of the U.S. Securities and Exchange Commission, which has authority to regulate financial reporting standards, was “to restore investor confidence in our capital markets by providing investors and the markets with more reliable information and clear rules of honest dealing.” (SEC website <http://www.sec.gov/about/whatwedo.shtml>). Also, see Pigou (1938) and Breyer (1982), and Section 4 below for “market failure” justifications for the regulation of financial information dissemination.

¹⁶ “The mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation. As more and more first-time investors turn to the markets to help secure their futures, pay for homes, and send children to college, our investor protection mission is more compelling than ever.” (SEC website <http://www.sec.gov/about/whatwedo.shtml>).

We assume throughout that the objective of accounting standards is to facilitate the use of financial statements in the efficient allocation of resources in an economy, without harming the average, unsophisticated investor. The latter objective reflects the SEC's mission to promote fairness, which is not necessary for GAAP to achieve efficient capital allocation, and that may in fact detract from the efficient allocation of resources.¹⁷ As discussed in Section 4, the informational efficiency of capital markets protects unsophisticated investors. Therefore, financial reporting standard-setting under the maintained hypothesis that capital markets are informationally efficient is unlikely to be significantly influenced by the "fairness" objective. At most, standard setters might entertain mandating additional disclosure to meet this objective. The likely impact on the efficiency of the allocation of resources is of a second order magnitude, which we ignore in the analysis below.

We summarize the likely effect of the various stakeholders' demands for and supply of financial information on the properties of GAAP in equilibrium. Because various stakeholders have different information and contracting demands, no single set of GAAP rules will completely satisfy all stakeholders.¹⁸ Nevertheless, we summarize the economic arguments in the literature that explain why GAAP is likely to be shaped by certain stakeholder demands. The analysis suggests that performance measurement is expected to play an influential role in shaping the income statement while the balance sheet is expected to primarily reflect stewardship

¹⁷ Fairness concerns are not necessary for GAAP to achieve the objective of efficient capital allocation. In fact, perceived "unfairness," such as complex financial statements that create an opportunity for sophisticated users to expend real resources on information production and gathering and to trade on information advantages can enhance efficiency. Nevertheless, given the SEC's mission to promote fairness, we assume that GAAP financial statements should not harm the average, unsophisticated investor.

¹⁸ Some standard setters have recently advocated developing a GAAP that is predominantly suited to meet equity valuation demands (e.g., Schipper, 2005). As part of this agenda, they advocate the elimination of conservatism from GAAP, arguing that it is unsuitable for equity valuation. In this section, we summarize reasons why the conservatism properties of GAAP are central to its role in facilitating exchange in markets, and that GAAP without conservatism is unlikely to have survival value (see Ball, 2001 and 2006, and Watts, 2003a, and b, 2006).

demands for both debt contracting and management control purposes. The two financial statements articulate via double-entry and the use of dirty surplus. We begin the discussion with an all-equity firm setting. Later we discuss the effect of debt holders on the nature of demand for financial information and how it affects the properties of GAAP.

The inference from the literature that the income statement and balance sheet serve related but distinct roles merits some discussion. As articulated in more detail below, we see the income statement's primary role as measuring management performance while the balance sheet serves a predominantly stewardship role. This reflects the view that modern U.S. GAAP is primarily concerned with large public corporations typically characterized by separate ownership and control, internal control procedures, and professional management teams. In these firms, stockholders are likely to be at least as concerned about management's performance in running the business as with more basic agency problems such as the expropriation of assets or excessive consumption of perquisites. In firms with high degrees of alignment between ownership and management (including private firms), performance measurement is likely to be less important than mitigating other agency problems, in which case both statements are likely to play a more significant stewardship role.¹⁹

2.1. An all-equity firm setting

To facilitate the exchange of resources between the providers and users of equity capital, current and prospective investors demand information about the firm's financial performance, which they often use in enforcing contracts among various parties (see Jensen and Meckling,

¹⁹ The difference is really one of degree. Viewed broadly, stewardship includes management's performance in running the business; that is, how efficiently it has utilized the firm's resources to generate earnings (e.g., Penman, 2007). In this view, perquisite consumption and asset expropriation are extreme examples of management's failure to run the business efficiently.

1976, and Watts and Zimmerman, 1986). Financial information is useful to investors for at least two reasons: equity valuation and evaluation of management performance. For valuation purposes, investors seek financial information about the firm's current and prospective performance. However, GAAP produces financial reports that primarily contain information about current period performance. GAAP reports offer only limited information about the firm's prospective performance (for example, forward-looking information among U.S. registrants is offered qualitatively in the management discussion and analysis (MD&A) of the firm's annual report/10-K filing). Drawing upon previous research, we explain below why GAAP is likely to have evolved (and why it seems logical for it to have done so) to restrict reporting to current period financial performance, and not incorporate forward-looking information in financial statements.²⁰ We divide this discussion into two parts. The first part assumes management reporting of financial information is truthful in the sense that management faithfully applies GAAP in producing financial reports. This can be viewed as ignoring concerns about the credibility of the information supplied by management or concerns about opportunistic earnings management.²¹ In the second, we analyze the effect of incorporating credibility concerns, which creates a demand for verifiability, conditional conservatism, and independent auditing.

Throughout the review, we essentially ignore the separation and associated agency problem between the board of directors and management. This is a simplification of the manner in which public corporations are organized and managed. In a typical public corporation,

²⁰ Whether firms should be required to provide detailed qualitative and quantitative forward-looking information in the form of supplementary financial information or disclosures and the nature of standards governing such disclosures is beyond the scope of our analysis (i.e., they are outside our definition of "GAAP"). A substantial body of literature investigates cross-sectional and time-series variation in the voluntary provision of such information (see Healy and Palepu, 2001, for a review of the literature).

²¹ Thus, in this sub-section we ignore agency problems and focus only on the measurement issues, similar to the approach taken in papers such as Lambert and Larcker (1987) and Sloan (1993).

shareholders elect a board of directors to represent their interests in managing the corporation, including the appointment of the management team, its performance assessment, and compensation of the management. The board contracts with a management team to execute the firm's strategy (i.e., strategy formulated by the board on behalf of investors) and manage its day-to-day operations. Thus, in practice, there are two layers of agency problems: one between the shareholders and the board, and the other between the board and the management.²² In studying the evolution and economic determinants of GAAP, we fuse the board and the management into one entity and discuss the impact of agency issues as if they arise from a single agency relation between shareholders and management.

Collapsing the board and the management into one entity for the purposes of this review is unlikely to amount to the omission of a crucial feature affecting the character of GAAP. Shareholders as well as directors demand information about the management's performance for the same purpose: to incent and compensate management. Boards are usually privy to more information than shareholders because information supplied to the board by management does not have to be publicly released. However, the agency conflict between shareholders and the board (who may favor management's interests over those of the stockholders) suggests that shareholders cannot rely exclusively on the board's assessment of management performance. Shareholders are thus expected to seek public information on management performance; such information is also likely to be useful in shareholders' monitoring of the board. Therefore, the nature of public financial information sought by shareholders from the management is unlikely

²² See Armstrong, Guay, and Weber (2010, section 2.1) for a description of the two layers of agency problems in the context of corporate governance. The rest of their survey discusses literature on the two layers in considerable detail.

to differ significantly with the addition of the board.²³ The view that a distinction between the board and the management is second-order in shaping GAAP appears to be shared by others in the literature. The extant literature typically does not make a distinction between the board and the management in economic analyses of the determinants of GAAP (see, for example, Watts, 2006), but we cannot unequivocally rule out potential benefits of introducing a distinction between the board and management in examining the effects on GAAP.

2.1.1. Principal-agent relationship between shareholders and management

In a typical public corporation, shareholders delegate the firm's day-to-day operating decisions to management, creating an agency relationship between the shareholders, as principals, and management, as agents (Jensen and Meckling, 1976). Through the board, the firm's shareholders hire, monitor, reward, and incent management to act in the shareholders' best interests. This naturally creates a demand for the measurement of periodic performance, i.e., the management's output in a period resulting from the management's actions in the period.

To evaluate and compensate management for current period performance, investors focus on the output resulting from management's actions (effort) in the current period. Actual sales or revenues for the current period reflect (albeit imperfectly) the consequences of management actions in that period. The primary reason for focusing on "outputs" is the difficulty of measuring actions (effort) *per se* (see Holmstrom, 1979). However, the difficulty exists, even absent agency problems, because of uncertainty about the future and *ex post* settling-up problems (e.g., future business conditions, a manager's future actions, health of the manager, counter-party

²³ Another reason is that properties of GAAP are also significantly shaped by debtholder-shareholder agency relationship. Analysis below shows that debt holders' demands for information are similar to those of the shareholders as predicted under the assumption of no distinction between the board and the management.

risk, etc.). The revenue recognition principle attempts to capture the spirit of an output-based measure of management effort (i.e., revenue is recognized when it is earned and *realized or realizable*).²⁴

The nature of information about firm performance that investors demand for equity valuation is similar to but not perfectly congruent with that for evaluating and rewarding management. For valuation purposes, investors seek information that is helpful in assessing current cash flows and the amount, timing, and uncertainty of future cash flows, regardless of observed outputs and whether the management has already taken the actions necessary to generate those cash flows.²⁵

In addition to measuring current performance, for valuation purposes, investors seek information about actions management might take in the future, and the potential effect of those actions on future cash flows. Stockholders design compensation packages to influence the management's future actions to be in the stockholders' best interests, i.e., to ensure that management takes actions that maximize future net cash flows and therefore the share price. In this sense there is alignment between investors' informational demand for valuation and management performance evaluation, but the latter demand when manifested in GAAP explicitly focuses on performance resulting from the management's actions in the current period. To the extent current performance is indicative of future performance, GAAP caters to the investors'

²⁴ If management has expended effort to produce future sales, i.e., multiperiod consequences of managers' actions, then the current period sales (which might include the impact of management's actions from past periods) as a measure of management performance is an imperfect indicator of management performance (see Lambert, 2001, section 6). This is but one example of accounting performance measure as an imperfect substitute for the desired measure due to limitations in measuring the entire output of actions already taken (i.e., the revenue is not "*realized*" in spite of actions having been taken). The relative importance of current output, sales, in compensation is expected to be a decreasing function of the ratio of current to future output resulting from current actions.

²⁵ For example, in valuing Wal-Mart, relevant information might include sales (revenues) for the current period as well as information about how much Wal-Mart is expected to sell in the future as a result of the company's growth plans, the quality and range of products it anticipates selling, the nature of the competition, the condition of the economy, etc.

valuation demand for information. In the limit, if current performance is a sufficient statistic for valuation relevant information (i.e., if earnings were to follow a random walk and the market had no information beyond that in the time series of earnings, see Kothari, 2001), there would be perfect alignment between the valuation and performance evaluation sources of demand for information. However, this is unlikely in practice because (i) perfectly capturing current performance is difficult; (ii) current period performance will not entirely subsume information about the future, especially for firms that are growing or in decline; and (iii) some fluctuations in firm value are unrelated to management's performance.²⁶

Some advocate fair value accounting to measure firm and manager performance.²⁷ If fair value accounting were literally mark-to-market, including the marking to market of all of the firm's assets and liabilities, then measured accounting performance would equal the change in the market value of the firm's equity. However, realistically no application of fair value accounting would approach such a *nirvana* mark-to-market economic performance measure because of (i) the financial accounting systems' focus on the measurement of separable assets, (ii) the nature of revenue recognition (see below), and (iii) the difficulty of valuing and measuring synergies from management actions. Equally important, stakeholders are unlikely to demand financial information using an accounting system based on fair values, especially when

²⁶ In theory, all fluctuations in firm values can be attributed to management's performance (or non-performance). However, in practice, we do not observe the use of management performance metrics that include all of the valuation risk of a firm (perhaps because managers are more risk averse than the firm, i.e., typical shareholder who is expected to be well-diversified). For example, gains and losses on foreign-currency translations are not included in U.S. GAAP income although managers actively manage currency-risk. See Sloan (1993) for evidence that earnings in part filter out the uncontrollable portion of a firm's periodic economic performance, i.e., market returns. For these reasons, as discussed in Section 3, the effect on value of certain transactions is included in dirty surplus rather than being included as part of income.

²⁷ See, for example, Barth (2006), Johnson (2005) for FASB and IASB boards' advocacy and use of fair value accounting in standard setting.

it relies on managers' estimates of those values (see Ball, 2001, and Watts, 2003a and 2003b).²⁸

On the latter point, see Section 2.1.2 below. The utility of fair values in financial reporting is further discussed in Section 3 below.

2.1.2. Effects of a demand for credible financial information: Verifiability, conditional conservatism, and auditing

The preceding discussion assumes all of the information in financial reports is credible, which means managers are assumed to truthfully report the firm's financial performance based on a faithful application of GAAP. We relax this assumption in the analysis below. Questions about the credibility of the financial information arise because management is responsible for the preparation of performance reports. Stockholders therefore seek performance measures that are verifiable, and obtain outside auditors' attestation as to the reliability of that information (see, for example, Watts and Zimmerman, 1986).²⁹ Absent these safeguards, management's performance reports are unlikely to be credible given its incentives to embellish reported performance. These incentives arise not only because of the explicit contractual use of periodic performance measurement for management compensation purposes, but also because measured performance is likely to affect managers' career prospects within the firm (both tenure and promotion prospects) as well as more broadly in the managerial labor market.

²⁸ Penman (2007) discusses why the income statement is the primary vehicle for conveying information relevant for valuation, and not the balance sheet. He discusses the notion that earnings report how well the firm has performed in arbitraging prices in input (supplier) and output (customer) markets—i.e., the value added by the business' operations. Thus, earnings measure the performance of management in generating value from operations. He also notes that such (historic cost based) measures of income are useful in forecasting future income and so useful for valuation.

²⁹ We discuss below additional factors (besides performance measurement) that reinforce the demand for accuracy and reliability of management-supplied financial information.

The agency problem between shareholders and management has a fundamental effect on the attributes of the financial information (and thus, the GAAP rules) that shareholders and other stakeholders demand and management supplies (Jensen and Meckling, 1976; Watts and Zimmerman, 1983, 1986). To rein in management's proclivity to favorably skew reported performance, GAAP has evolved to require financial reports based on verifiable information. For example, the "earned" criteria in revenue recognition can be attributed to concerns over the credibility of sales reported when full managerial "effort" has not yet been expended to generate those revenues (i.e., moral hazard). In fact, the entire body of practice known as "unconditional" conservatism can be attributed to concerns over verifiability. Unconditional conservatism refers to accounting practices that tend to reduce the reported amount of the entity's net assets (e.g., immediate expensing of research and development expenditures) and hence result in a conservative measure of balance sheet book value. The practice of systematically expensing costs (in violation of the matching principle) when the benefits associated with those costs are sufficiently uncertain (e.g., most forms of research and advertising expenditures) can be explained by management-shareholder agency problem. Absent accounting rules requiring the immediate expensing of such costs, management has incentives to indefinitely postpone their recognition as expenses to exaggerate its own performance.³⁰ The WorldCom fraud is a vivid illustration of this point.

As a further response to credibility concerns surrounding management-prepared financial reports, the threshold on verifiability is lowered when information is adverse, i.e., GAAP is

³⁰ The immediate expensing of costs whose benefits are uncertain can result in understating net performance for the period in which those costs are incurred (e.g., high research spending results in lower net profits in the period the spending is incurred). On these grounds, it can be argued that such costs should be taken directly to equity (i.e., dirty surplus), thus avoiding a muddled performance measure. However, since the benefits from these expenditures, if realized, eventually flow through the income statement, it seems reasonable to require the costs to do so as well, which is of course the fundamental logic underlying matching.

“conditionally” conservative. Conditional conservatism is “the more timely recognition of bad news than good news in earnings...as occurs with impairment accounting for many types of assets” (Ryan, 2006, p. 511).³¹ The underlying logic for conditional conservatism originates from the premise that management usually has less incentive to recognize the effects of bad news than good news in the financial statements. Therefore, if GAAP requires management to recognize bad news, then management’s bad news disclosures would be believable even if they did not meet the objectivity and verifiability thresholds. In contrast, the objectivity and verifiability thresholds are not symmetrically relaxed with respect to good news because such reporting is likely to be inherently unreliable.

Despite the greater credibility of management’s recognition of bad news, we note two caveats. First, even when GAAP requires adverse earnings news to be recognized early by lowering the relevant verifiability thresholds, GAAP earnings measures could still be biased upwards. The events of the 2008-09 financial crisis suggest that, notwithstanding conservatism in GAAP, the recognition of adverse economic news in the financial statements of financial institutions was significantly delayed. Thus, with conservative accounting, managers’ favorable bias reflected in financial statements is expected to be muted, not eliminated.

Second, management can abuse the lower verifiability standards applied to bad news by using their discretion to recognize “too much” bad news. Specifically, standard setters and others express concern about managers using their accounting discretion to generate “cookie-jar” reserves, i.e., management’s ability to be overly conservative and use conservatism as an earnings-smoothing device (e.g., DeAngelo, DeAngelo and Skinner, 1994; Francis, Hanna, and Vincent, 1996; Myers, Myers, and Skinner, 2007). Previous research also documents

³¹ See for example, Basu (1997), Kothari (2000), Ball, Kothari, and Robin (2000), Ball (2001), Watts (2003a and b), Ball and Shivakumar (2005 and 2006), and Ryan (2006).

management's incentive to be overly conservative following management changes (e.g., Murphy and Zimmerman, 1993; Pourciau, 1993; and Weisbach, 1995). Overall then, the efficiency of conditional conservatism in equilibrium is an empirical question, although its survival over many decades and in many contractual settings suggests that it is efficient.

Shareholders' demand for conditional conservatism arises for at least three reasons (e.g., Watts, 2003a). First, shareholders, via the board of directors, delegate responsibility for managing their capital to management, but retain decision rights over management hiring, retention, and compensation. Because management is likely to be reluctant to recognize bad news, conditional conservatism forces management to recognize that news as the associated economic events occur even if that news does not meet the objectivity and verifiability thresholds that otherwise apply. Management's reluctance to recognize bad news is mitigated by legal and reputational concerns in the labor market and associated effects on their human capital.

Second, in the event of bad news (poor economic performance), especially sustained bad news, management is not only likely to withhold the information, it can also have incentives to make investment decisions that are contrary to the shareholders' best interests. Following poor performance, management faces an option-like payoff in that it faces limited downside but retains an upside that increases in the variability of cash flows from its investment decisions.³² This can motivate management to make overly risky investments, i.e., engage in asset substitution (Myers, 1977, Smith and Warner, 1979, and Watts, 2003a and 2003b). Conditional conservatism enables shareholders to either curb management's potentially value-destroying decisions (by exercising greater oversight when performance is poor) and/or replace the

³² As Watts (2006) indicates, managers face limited liability in the sense that the penalties that can be imposed on them are limited. It is this fact, combined with their limited tenure and associated horizon problems, which causes stockholders' asymmetric loss function in their dealings with management, and so leads to a demand for conditional and unconditional conservatism.

management. Conditional conservatism also provides a legal basis for shareholders to initiate action against the management *ex post*.

Finally, by withholding bad news, management increases their current period compensation. Conditional conservatism allows shareholders to guard against this possibility *ex ante*. This is efficient because it is usually prohibitively costly to recoup excess compensation *ex post*.³³ This is analogous to the underinvestment problem (Myers, 1977, and Smith and Warner, 1979) that arises between shareholders and bondholders (see below).

Conditional conservatism mitigates all of these problems, which explains why it has long been a central tenet of GAAP that predates the regulation of accounting (see, e.g., Basu, 1997; Watts, 2006). The *ex ante* disciplining role of conditional conservatism on management behavior is due in part to the fact that it helps to resolve disputes between shareholders and management *ex post*, which includes the enforcement of GAAP in the event of litigation.³⁴ Conditional conservatism provides similar benefits in the context of debtholder-shareholder contracts, as discussed below.

Conditional and unconditional conservatism signify a trade-off under which relevant information about management achievements is deemphasized in order to provide a more prudent and reliable performance measure. External auditing of financial reporting helps mitigate the trade-off. That is, attestation of financial reports by independent external auditors

³³ See Barclay, Gode, and Kothari (2005) and Leone, Wu, and Zimmerman (2006). Anecdotal evidence from the 2008–09 financial suggest that some managers were overcompensated notwithstanding extreme bad news that was not fully disclosed. For more formal discussion about how the structure of compensation in banks created perverse incentives, see Diamond and Rajan (2009).

³⁴ Even with access to private litigation as recourse for recovering damages, standards (regulation) might produce more efficient outcomes because standards potentially enhance the likelihood of enforcement. Shleifer (2005, p. 445–6) notes “It may be relatively easy to convince a judge—by persuasion or bribery—that a security issuer who concealed information from investors is not liable when there are no specific rules as to what needs to be disclosed. It is much harder for the issuer to convince the same judge when the law states specifically what must be disclosed. Perhaps for these reasons, private enforcement of public rules is a highly efficient strategy of enforcing good conduct in many situations (Hay and Shleifer, 1988; Hay, Shleifer, and Vishny, 1996).”

enhances the credibility of those reports and enables greater reliance on accrual (as opposed to cash) accounting in the preparation of financial statements. In this sense auditing serves as a substitute for conservatism that can therefore enhance the relevance of the performance measure.³⁵ For example, auditors independently ascertain the quality of a firm's receivables, which enables credit sales to be recognized as revenue (rather than having to wait for the receipt of cash). In addition, auditing facilitates the use of accounting measures in explicit and implicit contracts between shareholders and management. The institution of auditing emerged to fulfill an economic demand for their services that arose in the absence of regulation (see Watts and Zimmerman, 1983). The combination of economic returns to reputation and the threat of litigation serve as incentives for auditors to be independent, and so lend credibility to their attestation of corporate financial reports.

2.2. The effect of debt on GAAP

This section begins with a brief summary of the key properties of debt contracts.³⁶ Whereas stockholders' claim over the firm's assets is analogous to a call option over the firm's assets with an exercise price equal to the face value of debt, debt holders' claim is akin to that of a written put option, in that their upside is capped at the face value of debt (Black and Scholes, 1973, Merton, 1974). If firm value falls below the face value of debt, debt holders lose the difference between the face value of debt and firm value. Debt holders lend capital to the firm in

³⁵ Conservatism and auditing in general are complements (i.e., they address the moral hazard in having managers report on their own performance), but the point we make here is that, without auditing, investors will demand an even more conservative GAAP (i.e., there will be an adverse selection response; for example, investors may demand cash accounting in the extreme). In this sense, at the margin, auditing and conservatism are substitutes. However, in general the two are complements in that high quality auditing is likely to be associated with financial statements prepared with a credible application of conservatism, and conversely, low quality audits are likely to be associated with a not-so-credible application of conservatism in the preparation of financial statements.

³⁶ Armstrong et al. (2010) reviews the debt-contracting literature in detail. See Section 5 of their review in particular.

exchange for promised principal and interest payments, but operating control of the firm remains with the combination of shareholders and management so long as the contractual terms of the debt are honored. Like the shareholder-management agency relationship, debt creates an agency relationship between shareholders and debt holders (Jensen and Meckling, 1976; Smith and Warner, 1979). In the context of this agency relationship, management is assumed to act in shareholders' best interests.

Given their payoff function, debt holders demand financial statements that supply information about (i) the value of the firm's assets in the event of liquidation, (ii) the extent of other claims on those assets, and (iii) firm performance. Debt holders' lending decision is based on their assessment of the firm's ability to make periodic interest and principal payments over the life of the debt contract. Consequently, they seek information about the firm's income-generating ability, i.e., periodic firm performance, as an indicator of the firm's ability to service the debt and avoid a flow-based insolvency (Ross, Westerfield, and Jaffe, 2002, p. 856). In addition, because of the put-option-like payoff structure of debt, debt holders seek information about the value of the assets in the event of liquidation (a stock-based insolvency, Ross et al., 2002, p. 856), i.e., the value debt holders could recoup by selling the firm's assets in the event the firm's business performs poorly and it is unable to make the contractual interest and principal payments.³⁷ The effect of these information demands on GAAP is discussed below.

³⁷ We describe a simple setting in which one class of "debt holders" comprise all obligations of the firm. Realistically, however, firms typically have different classes of debt holders and some economic obligations do not even appear on the balance sheet. Debt holders naturally pay attention to unrecognized obligations as well as the priority of various classes of debt. These nuances only serve to intensify the demand for conservatism and other properties of GAAP we discuss here (see, for example, Watts, 2003a and 2003b).

2.2.1. Consequences of asset substitution and underinvestment problems in the agency relationship

The asset substitution and underinvestment problems (Myers, 1977, and Smith and Warner, 1979) drive debt holders' demand for information about the value of the firm's net assets in the event of liquidation. This demand is manifested through the preparation of a balance sheet using accounting principles that include unconditional and conditional conservatism (see, for example, Ball et al., 2000, Watts, 2003a and b, and Watts, 2006). Debt holders' demand for information helpful in assessing a firm's flow-based solvency is reflected in the income statement, which includes information useful for assessing the firm's ability to generate operating cash flows.

Shareholders can potentially transfer wealth from debt holders to themselves by investing in riskier assets than expected when the debt was issued, i.e., asset substitution. The potential for wealth transfer increases as firm value falls and the stockholders' call option moves from being well in the money to being at or close to the money, and it becomes particularly acute as this option falls out of the money. However, at this juncture, shareholders' operating control of the firm is in jeopardy because as the stock slides out of the money, control rights to the firm's assets are transferred from shareholders to bondholders. To reduce the likelihood of losing control, shareholders have an incentive to delay the recognition of bad news so that (i) the reported value of assets exceeds their fair value (and the face value of debt), and (ii) reported performance is overstated (see, e.g., Watts, 2003a, b; Watts, 2006). It is precisely under these circumstances that debt holders wish to be informed about bad news as early as possible so that they can determine whether to restrict shareholders' opportunistic risk-taking through greater oversight and debt covenants. This is the role of conditional conservatism, which provides debt holders

with the ability to intervene in circumstances when firm value would otherwise be reduced (see Watts, 2003a; Zhang, 2008).

Debt holders face similar concerns with respect to underinvestment. Once again, assuming a well-functioning institution of auditing and effective enforcement of contracts, conditional conservatism has the potential to protect debt holders from wealth expropriation by recognizing bad news on a timely basis and preventing stockholders from overstating asset values.³⁸

Because lenders anticipate these agency problems, they typically demand conditionally conservative accounting rules as a precondition to lending. Further, because lenders price protect themselves *ex ante*, shareholders are likely to voluntarily commit to this form of accounting because it minimizes their net borrowing costs (see Beatty, Ramesh, and Weber, 2002; and Asquith, Beatty, and Weber, 2005).

2.2.2. *Debt holders' demand for verifiability and auditing*

Because debt holders might be forced to recoup the amounts they are owed through liquidation of the firm, they demand information about the value of the firm's separable and salable assets net of its economic obligations (e.g., Holthausen and Watts, 2001). Firm value is likely to exceed the sum of the values of its separable net assets by the amount of goodwill, which represents both firm-specific assets-in-place and growth options/rents (Roychowdhury and Watts, 2007). Because this goodwill has little or no liquidation value, and because its market

³⁸ A recent analytical exercise in Gigler, Kanodia, Sapra, and Venugopalan (2009, p. 791, original emphasis) concludes "the result that accounting conservatism actually *detracts* from efficiency of debt contracts, a result that is strikingly different from that" suggested here and elsewhere in the literature. The opposite conclusions, in our opinion, are a direct consequence of Gigler *et al.* ignoring agency problems like asset substitution and underinvestment.

value on a going concern basis is largely unverifiable, debt holders generally ignore it in making lending decisions (for example, see Watts, 1977; Leftwich, 1983; Watts, 2006).³⁹ In this sense, unconditional conservatism in GAAP can be attributed to debt holder demands that the balance sheet reflect only “hard” net assets. The historic (pre-SEC) practice of writing-off goodwill immediately upon acquisition is consistent with this argument (Ely and Waymire, 1999).⁴⁰

As in the case of shareholder-management contracts, the demand for auditing arises naturally in the presence of debt holders who seek independent attestation that the financial statements conform to GAAP, including conditional and unconditional conservatism. Auditors thus help to enhance the credibility of financial information used by debt holders.

Finally, a GAAP with conservative features and a well-functioning auditing system must also be complemented with effective enforcement for financial reporting to be effective. As noted earlier, our discussion of GAAP should be interpreted in the context of the institutional features existing in an economy. That is, a GAAP with conservatism alone is unlikely to be particularly useful in an economy without well-functioning institutions of auditing and law enforcement (see for example, Ball, Kothari, and Robin, 2000, and Ball, Robin, and Wu, 2003).

³⁹ See Frankel, Seethamraju, and Zach (2008) for some seemingly contrary evidence on this point. Frankel et al. find that the likelihood that lenders use a net worth covenant (which reflects goodwill) rather than a tangible net worth covenant (which does not) increases with the amount of goodwill on the borrower’s balance sheet. Beatty, Weber and Yu (2008) report a similar result but argue that lenders may be indifferent between using a net worth covenant that includes the entity’s goodwill at inception and a tangible net worth covenant that ignores the goodwill entirely.

⁴⁰ Ely and Waymire (1999) report that a common practice from the pre-SEC period was to write-off acquired goodwill directly to equity. This dirty-surplus practice is consistent with the desire to provide verifiable balance sheet measures without muddying contemporaneous performance measures (since the goodwill write-off from an immediately completed acquisition is unlikely to provide useful information about management performance). This example suggests there can be an economically meaningful role for dirty-surplus accounting, contrary to the FASB’s fair-value-based conceptual framework where all changes in assets and liabilities must flow through the income statement. The aforementioned benefits of goodwill write-off are to be traded off against the benefit from goodwill amortization in holding management accountable for their investment decision and potential overpayment for a target (see Section 3 for a discussion of this benefit).

2.3 Demands of Different User Groups

The foregoing discussion describes how debt holders and equityholders demand somewhat different information from financial statements, which means that firms' general purpose financial statements trade off their different informational needs. This problem is further complicated by the fact that other parties (such as regulators, employees, government agencies, and customers) are all likely to have somewhat different informational needs. One solution to this problem is to provide different sets of financial statements to each set of users. However, producing multiple sets of financial statements is likely to be prohibitively costly, both in terms of management time and because of the potential cost of auditing these different sets of statements.

Another solution to meeting the different informational demands of various users is for firms to provide a single set of general purpose financial statements and allow different user groups to tailor (or adjust) the financial statements to suit their own purposes (Watts and Zimmerman, 1986). The fact that we do not observe multiple sets of financial statements (except perhaps for tax reporting to the government) suggests that the use of a single set of general purpose financial statements is likely to be the lowest cost solution to this problem (see Leftwich, 1983). However, the question remains as to what the "general purpose" financial statements should look like. Some (e.g., Francis et al., 2006, and Barth et al., 2001) suggest that equity market investors are the primary users of financial statements and that their focus on equity valuation (and "unbiased" performance measures) means that financial statements should be free

of conservatism (of either type).⁴¹ The economic theory outlined above, however, predicts that both equity holders and debt holders demand conservatism for multiple reasons, so “unbiased” financial statements are unlikely to be viable for general purpose financial reports. Conservatism has been embedded in accounting rules as they have evolved endogenously over hundreds of years, which suggests it is an economically efficient part of financial reporting. This is not surprising when one considers that agency problems among various corporate stakeholders, and particularly between management and other groups, are ubiquitous, and the agency relationships often provide management with incentives to overstate periodic performance measures.

We emphasize that the preceding discussion refers to the demand for and supply of information in *financial statements* in equilibrium. Information in financial statements alone does not fully satisfy equity-holders’ demand for valuation information. Therefore, many other sources of valuation-relevant information co-exist in the marketplace. The parallel here is Akerlof’s (1970) lemons problem in which we expect the advent of other means of communicating quality, e.g., warranties, because price alone cannot signal quality. Accounting information alone is incapable of satisfying the information needs of equity investors, so other means of communicating corporate value emerge. These include management-supplied voluntary and mandatory disclosures to supplement financial statement information, corporate decisions and actions that signal management information, analyst reports, etc. Examples of management disclosures include the MD&A section of the annual report, management forecasts and analyst conferences, and corporate press releases; examples of corporate decisions and

⁴¹ Penman (2007) argues that the existing approach to income determination using current period revenues based on output prices and matched expenses based on input prices is helpful to investors in forecasting future performance and hence in equity valuation. He further argues that the current model is superior from an equity valuation standpoint to alternatives, including an “unbiased” model that relies heavily on fair value accounting, because it relies less on management-generated estimates of fair values.

actions include capital and R&D investment decisions, the quality of auditor or investment banker hired by a firm, type of financing (debt, equity, hybrid, convertible, preferred, etc.), dividend and stock repurchase decisions, management ownership and changes in management ownership of a firm's equity, and M&A and other asset purchase and sale activities, etc.

2.4. Implications for GAAP

Based on a review of the literature, we summarize a simple economic setting in which it is value-enhancing for firms to supply financial information for performance measurement and stewardship purposes to cater to the demand of debt- and equityholders. The conclusion that emerges is that the performance evaluation and stewardship view of GAAP, based on the contributions of Jensen and Meckling (1976), Holthausen and Leftwich (1983), Watts and Zimmerman (1986), Ball et al. (2000), Ball (2001), Watts (2006), among many others, is likely to generate financial reporting standards that have survival value, while the alternative "valuation" viewpoint is not. Stated differently, although the demands of equity- and debt holders are similar in many respects, and thus financial statements under the performance evaluation and stewardship view are expected to provide information useful for valuation, equity- and debt holders' demands also differ along several important dimensions and in those cases performance evaluation and stewardship are more likely to shape GAAP. The performance evaluation and stewardship view is also known as efficient contracting. The following conclusions emerge from the analysis in this section.

First, stockholders demand (and corporations supply) information about the firm's periodic performance (output), which they use to evaluate, reward, and punish management. The revenue recognition principle, which requires revenues to be both earned and realized or

realizable, is a direct consequence of the demand for a reliable, output-based measure of periodic performance.

Second, debt and equity holders demand (and corporations supply) verifiable information because they recognize that management as the supplier of financial information has both superior information about the firm's prospects and incentives to favorably skew financial information. While equity investors are interested in receiving information relevant for valuing the firm, they also recognize that management has incentives to bias this information. This results in trading-off the relevance and timeliness of financial statement information in favor of verifiability (reliability). GAAP is influenced by the trade-off between the demand for a reliable periodic performance measure and financial information relevant for valuation, which transcends periodic performance.⁴² We expect, and evidence suggests, that periodic performance and valuation (i.e., change in market value) measures are positively, but not perfectly correlated.

Third, debt and equity holders seek (and corporations supply) conditionally conservative financial information in which the verifiability thresholds for the recognition of bad news are lower than those for good news. Preference for conditional conservatism recognizes management's (with respect to investors) and shareholders' (with respect to bondholders) reluctance to recognize bad news and their tendency to undertake actions to the detriment of these groups. Conditional conservatism as an explicit attribute of GAAP is also helpful in the enforceability, through litigation, of contracts between shareholders and management and between debt holders and shareholders.

⁴² Johnson (2005) in the context of the expanding use of fair value accounting in standard setting articulates the FASB's position as "the Board does not accept the view that reliability should outweigh relevance for financial statement measures."

Fourth, in extreme unfavorable circumstances, debt holders recoup their principal through liquidation of a firm's assets. With this possibility in mind, debt holders seek information about the value of assets in liquidation.⁴³ Therefore, debt holders' interest is in the value of separable and salable assets, excluding goodwill and certain other intangibles, which represent assets-in-place with no alternate use and/or future rents the firm might have earned as a going concern.

Fifth, the combination of demand for information about periodic performance and demand for verifiable information leads to the primacy of performance measurement and stewardship over valuation in determining important attributes of financial statements. The income statement is primarily oriented toward performance measurement whereas the balance sheet primarily serves a stewardship role. These conclusions do not imply that each statement exclusively serves one purpose or the other. Nor do we suggest that the two statements are entirely separate with distinct, unrelated properties. In fact, double-entry book-keeping ensures that the balance sheet and the income statement articulate subject to dirty surplus, as we discuss in Section 3.

Finally, the demand for and supply of auditing arise in part to enhance the credibility of the management-supplied information about the firm's financial condition and economic performance. The demand for audited financial statements also contributes to verifiability and conditional conservatism as properties of GAAP. Our analysis and predictions of the properties of GAAP throughout this study are predicated on the assumption that well-functioning auditing institutions exist in the economy.

⁴³ Debt holders also seek other information, including forecasts of cash flows from operations, earnings, leverage, etc., but such information is typically under the assumption of the firm as a going concern, not a firm in liquidation with debt holders in control.

The economic forces outlined above shape the demand for and therefore the content of financial reports. In addition to the demands from equity holders and debt holders described above, demands of other users of financial statements like employees, customers, suppliers, and regulators also influence the nature of GAAP. Managers and current equity holders have incentives in equilibrium to supply financial information that meets these demands. Doing so provides access to capital and economic opportunities, and can additionally lower the cost of capital.

Given the costs of producing, auditing, and processing financial information, it is likely that comparability and consistency are desirable characteristics of financial reports. This gives rise to a body of GAAP. Of course, in practice, observed GAAP is the result of both an economic equilibrium and political forces. The impact of political process on GAAP is reviewed in Section 4. But first, we discuss the implications of the theory of GAAP outlined above for the structure of GAAP financial statements.

3. Implications of the theory for the structure of financial statements under GAAP

The economic theory of GAAP that we discuss in Section 2 suggests that audited financial statements supplied in accordance with GAAP satisfy two principal market-driven demands that fall under the more general rubric of control/stewardship:

1. The primary role of the income statement is to provide information useful for managerial performance evaluation.
2. The primary role of the balance sheet is to provide information on the values of the entity's separable assets and liabilities, for both debt contracting and managerial monitoring purposes.

In this section, we discuss in more detail the implications of the efficient contracting perspective, as previously defined, for GAAP rules used to prepare financial statements. We first discuss why “dirty surplus” accounting arises naturally from the economic model of GAAP outlined in Section 2, a discussion that draws on Holthausen and Watts (2001, Section 4.3).

Under “clean surplus” accounting, all transactions that affect the entity’s net assets other than transactions with the owners are recorded on the income statement and flow through to retained earnings on the balance sheet. This accounting thus results in two components of stockholders’ equity, paid-in capital and retained earnings. Because the income statement and balance sheet serve somewhat different purposes, however, such “clean surplus” accounting is unlikely to survive as a necessary attribute of financial reporting. In particular, certain items that would be included as income under clean surplus accounting are unlikely to provide useful information for managerial performance measurement purposes (Holthausen and Watts, 2001, pp. 43-49). Under current US GAAP, there are three components of Other Comprehensive Income (OCI, i.e., “dirty surplus”), which for most entities are both relatively transient and non-operating in nature: unrealized gains and losses on marketable investment securities and certain derivative securities, foreign currency translation gains and losses, and the effect of the minimum liability pension adjustment. These items are likely excluded from income because they do not provide meaningful information about management performance during the period (for most non-financial entities, they do not inform us about the entity’s operating performance).⁴⁴ Conversely, these same items (such as unrealized gains and losses on securities) *are* optimally included on the balance sheet because they are relevant to the determination of the value of the

⁴⁴ To the extent that managers are expected to manage the risk associated with marketable securities, derivatives, and foreign currency translation, a case can be made for including gains and losses associated with these activities as part of income.

firm's net assets for debt contracting purposes. Thus, there are good reasons why GAAP as currently configured includes dirty surplus accounting and why standard setters' current proposals to move toward a clean surplus model are unlikely to improve the usefulness of financial statements. Holthausen and Watts (2001) point out that dirty surplus accounting has been a feature of Anglo-American accounting in periods before regulation, consistent with it being a part of a GAAP that facilitates efficient capital allocation.

3.1. The Balance Sheet

Consistent with its use predating regulation in the U.S., the balance sheet primarily serves the interests of the entity's creditors, broadly defined to include the regulatory use of this statement (for example, by bank regulators).⁴⁵ Since creditors recoup very little from (internally developed) intangibles in the event of liquidation, the balance sheet aggregates the values of the entity's separable assets and liabilities, and so provides a lower bound on the entity's value in liquidation. In addition, the balance sheet is likely to be useful for the evaluation of management's stewardship by providing a measure of the net assets over which management has control (for example, for purposes of computing ROE and ROA numbers). This has implications for the rules that govern the recognition and measurement of balance sheet items, which we address in turn.

3.1.1. Balance Sheet Recognition Criteria

⁴⁵ The most obvious example of regulations that do this is the regulation of banks under BIS (Bank for International Settlements, or Basel) standards, which define minimum levels of regulatory capital. Under these rules, regulatory capital is computed by adjusting stockholders' equity *as defined under GAAP*, where the adjustments remove certain intangibles that do not have clear economic value and so cannot support the banks' obligations.

Under current GAAP, three criteria must generally be satisfied for an item to be recognized on the balance sheet as an asset: (i) provides probable future economic benefits; (ii) arises as the result of a past transaction or event, (iii) is under the control of the entity.⁴⁶ The use of these criteria is consistent with the efficient contracting view that the balance sheet serves as a tool for debt contracting, satisfying creditors' demands for a reliable measure of the net assets available to meet their claims. Assets must be under the entity's control so that they can be used, legally, to satisfy creditors' claims in the event of bankruptcy or liquidation. The event giving rise to the asset (and evidencing its measurement at cost) must be reliable and verifiable, which necessitates a past transaction or event.

In addition, the balance sheet serves the stewardship demands of stockholders, who demand assurance that the entity's (net) assets have been managed to serve their interests during a given reporting period.⁴⁷

The use of the balance sheet by debt holders requires the exclusion of economic resources that cannot be used to satisfy their claims against the entity. There has been a good deal of controversy about whether the balance sheet should include "assets" related to various internally-developed intangibles such as brand names, customer satisfaction, intellectual capital of various forms, etc.⁴⁸ These items typically fail conventional asset recognition criteria because there is no external transaction (the items being internally developed), or because the associated benefits are highly uncertain (for example, R&D expenditures), or because property rights over these items are not well developed, making legal claims uncertain.

⁴⁶ See para. 25, CON6 ("Statement of Financial Accounting Concepts No. 6: Elements of Financial Statements").

⁴⁷ The balance sheet also allows stockholders to evaluate the value of their option to shut the firm down at any point in time (the abandonment option; see Hayn, 1995; Burgstahler and Dichev, 1997).

⁴⁸ For a summary and references, see Skinner (2008a).

Proponents of the view that these types of intangibles should be capitalized argue that by failing to recognize these items, the balance sheet excludes assets that have significant economic value (e.g., Lev and Zarowin, 1999). However, management-supplied estimates of the value of such intangibles are difficult to verify, and for contracting and monitoring purposes, their inclusion is of limited use. In contracting, these exclusions are justifiable because it is unclear that these items could be used to satisfy creditors' claims given uncertainty about both their future economic benefits and/or whether property rights are sufficiently well-defined as to establish legal rights over these items. Moreover, measurement of these items often relies on information and estimates provided by management, which are not verifiable and are subject to bias. Also, as discussed by Holthausen and Watts (2001, pp. 36, 37), to the extent that the value of these assets is dependent on the ongoing operations of the firm (for example, as with customer loyalty), these assets are not available to satisfy the claims of debt holders. This strengthens the view that internally-developed intangibles should not be included on the balance sheet. Finally, as discussed previously, the role of the balance sheet is not to measure the entity's economic value.

The more general point is that although "assets" under GAAP have anticipated future benefits, there is always some degree of uncertainty associated with those future cash flows. Thus, GAAP rules must distinguish between expenditures for which the anticipated future benefits are sufficiently certain as to justify asset recognition and those for which this is not the case. Under current GAAP, the anticipated cash flows from most internally developed intangibles are seen as being inherently too uncertain to justify recognition.⁴⁹ Given the role of the balance sheet in efficient contracting, there is good reason for this convention.

⁴⁹ Related to this, information that management supplies about the estimated future cash flows is costly to verify. See the discussion below.

The discussion about the uncertainty of future cash flows from an economic resource owned by a firm has a broader implication for GAAP. Specifically, it calls for a GAAP rule that recognizes that uncertainty about future cash flows associated with the entity's expenditures varies along a continuum, and indicates where along that continuum uncertainty becomes too large to allow capitalization. This type of rule is likely to achieve better consistency than drawing the line at different points for different classes of assets (e.g., always recognize real estate assets, never recognize customer relationships) unless, in practice, asset classes proxy for the uncertainty rule.⁵⁰ A GAAP principle of capitalization of assets as a function of the degree of uncertainty of future cash flows is likely to reduce the appearance of arbitrariness in the current set of capitalization rules and proposals for new rules. As a caveat, while the principle of specifying a level of uncertainty below which assets cannot be capitalized is desirable, as a practical matter specifying such a level objectively (i.e., not requiring management judgment in its implementation) will be challenging, and rules might be needed. We revisit the issue of principles versus rules in Section 4.

For contracting purposes, to be recognized as assets economic resources need to have economic value on a stand-alone basis, i.e., they need to be separate and salable (Holthausen and Watts, 2001). As indicated above, balance sheets provide an approximate lower bound on the value available to creditors in the event the entity ceases to be a going concern.⁵¹ Consequently,

⁵⁰ This uncertainty cutoff is likely to differ across different GAAP regimes given underlying institutional differences in the legal environment (for example, intangibles may have different legal protections, which affect the uncertainty about future benefits), audit quality, securities enforcement, and so on.

⁵¹ This is not meant to imply that GAAP measures all assets at amounts that are upper bounds on their liquidation values. GAAP balance sheets rely on the going concern assumption so that most current assets (e.g., accounts receivable) are recorded at amounts that are expected to be recovered in the normal course of business. Given the inherently conservative nature of asset measurement under GAAP, including the broad applicability of asset impairment rules (which apply to most assets, including inventory) and measurement at historic cost or amortized

when the value of assets, such as certain intangibles, is attributable to economic rents that flow from the entity's ongoing operations and disappear when the entity ceases to be a going concern, they are less likely to be included on the balance sheet. This logic is straightforward, as the following quote from Alan Greenspan, discussing the collapse of Enron, makes clear:

“As the recent events surrounding Enron have highlighted, a firm is inherently fragile if its value added emanates more from conceptual as distinct from physical assets. A physical asset, whether an office building or an automotive assembly plant, has the capability of producing goods even if the reputation of the managers of such facilities falls under a cloud. The rapidity of Enron's decline is an effective illustration of the vulnerability of a firm whose market value largely rests on capitalized reputation. The physical assets of such a firm comprise a small portion of its asset base. Trust and reputation can vanish overnight. A factory cannot.” Quote taken from Lev (2002, pp. 131–132).

Evidence from privately negotiated lending agreements supports the efficient contracting view of balance sheets. Leftwich (1983) and more recently, Beatty, Weber, and Yu (2008) provide evidence that parties to these agreements, who are free to adjust GAAP financial statements in any way they choose, make systematic adjustments to GAAP, including: (i) the removal of certain assets, often intangibles, from balance sheets, (ii) the inclusion of certain obligations that do not qualify as liabilities under GAAP.

Another important attribute of asset recognition criteria is the extent to which an asset's recognition and measurement are dependent on management judgment. Consider the treatment of research and development (R&D) expenditures. Under U.S. GAAP (FASB ASC 730, formerly SFAS 2), R&D costs are expensed as incurred in spite of the fact that, on average, these expenditures have future economic benefits. This rule has survival value under an efficient contracting view because the alternative, i.e., possible capitalization, requires reliance on

historic cost, net asset amounts derived from GAAP balance sheets will approximate a lower bound on net asset values for most firms.

managerial judgments about the likelihood of future benefits that are difficult to verify.⁵² In contrast, under IFRS (IAS 38), research costs are expensed as incurred while development costs may be capitalized if commercial and technical feasibility have been established. This is a more subjective rule that relies on information that is usually only known to management. Because this leads to the potential for manipulation by management, the efficient contracting view implies a more conservative approach, such as that in ASC 730 for R&D, when there is a relatively large information asymmetry about asset value between management and outsiders.

Bank regulatory rules operate in much the same way. BIS rules, as implemented in the U.S. and most other countries, exclude certain assets when computing banks' regulatory capital, including intangibles and most deferred tax assets, because these assets have uncertain economic values.⁵³ In other words, bank regulators effectively apply a form of unconditional conservatism given their use of the balance sheet to provide a measure of the minimum capital necessary for the bank to continue in operations.

The inclusion of purchased goodwill on the balance sheet is problematic in at least three respects. First, because goodwill effectively represents the rents available to economic activity, it is not a separate and salable asset, and so has little or no value as collateral for lenders. Second, the economic value of goodwill may be observable to management but is unobservable to outsiders, except at significant cost. Finally, realization of the economic value of goodwill is contingent on future management effort. Thus, while the initial amount of recorded goodwill is

⁵² For example, it is sometimes suggested that a 'successful efforts' type of approach be used in accounting for R&D expenditures.

⁵³ According to BIS guidelines, assets should be measured 'conservatively' and regulators are expected to adjust GAAP-based financial statements for both intangible assets (including goodwill) and deferred tax assets (BIS, 2000). The Fed's risk-based capital guidelines for U.S. banks limit the amount of deferred tax assets (DTAs) included in Tier I capital to: (i) the amount of DTAs expected to be realized within 1 year, and (ii) 10% of Tier I capital, whichever is smaller. These guidelines also exclude goodwill and 'certain other intangible assets' from Tier I capital.

bounded from above by a verifiable amount (i.e., the purchase price of the acquired entity is verifiable, although the allocation of that purchase price between the assets and liabilities acquired and goodwill is not), the current GAAP impairment rule requires managers to periodically compare the book value of the goodwill to its fair value. Determining these fair values is highly subjective and difficult for auditors to verify (e.g., Ramanna, 2008; Ramanna and Watts, 2009).

In spite of these drawbacks, goodwill has been included on balance sheets under the purchase method of accounting for many years, a practice that dates back to before the securities laws in the U.S., although Ely and Waymire (1999) report that goodwill was frequently written off in the early 20th Century. Given the apparent survival value of the recognition of goodwill in spite of the concerns discussed above, we suggest that recognizing goodwill on the balance sheet may play a role in efficient contracting. Specifically, by recording goodwill on the balance sheet and so including it in the entity's net assets, goodwill can enhance the balance sheet's role as a means of monitoring management's acquisition expenditures. This is likely to be important to help hold management accountable for acquisitions given managers' tendency to make acquisitions that are not value-maximizing for stockholders (Jensen and Ruback, 1983; Roll, 1986). Thus, goodwill could serve as a way of holding management accountable for acquisitions by including the full cost of these acquisitions in the denominator of performance measures such as ROA and ROE.

The practice of amortizing goodwill, abolished in 2001 in the U.S. under FASB ASC 350 (formerly SFAS-142), likely serves a related role in making management accountable for acquisitions by allocating the cost of these acquisitions to expense, even though this allocation is *ad hoc*. In contrast, the current requirement under GAAP to impair goodwill, because of its

inherent subjectivity, seems ill-suited to improving management's accountability. Although somewhat speculative, this perspective on goodwill could be developed to generate testable predictions that may ultimately help explain why the recognition of goodwill and its amortization survived for some time while we expect that its impairment is less likely to do so.⁵⁴

To summarize, we predict that contracting parties demand asset recognition rules that are consistent with evaluating management's stewardship of the firm's net assets. Thus, efficient contracting supports the use of the following asset recognition criteria: (i) that the entity can reasonably expect the associated expenditures to generate future economic benefits, and (ii) that assets have economic value on a stand-alone basis (are separate and salable), and (iii) that the benefits associated with assets can be reliably verified by parties separate from management. Consistently using these criteria would allow GAAP to address the emergence of new transactions without having to engage the rather cumbersome standard-setting machinery on an *ad hoc* basis, which inevitably results in standard-setting that lags economic innovation and can succumb to special-interest exceptions.

Evidence from private contracts supports the view that certain items are usefully excluded from balance sheets for creditors' purposes while others are included. For example, the major ratings agencies adjust balance sheet leverage ratios to include the effects of off-balance sheet securitizations, operating leases, pension liabilities, and other such economic obligations that are not recorded on the balance sheet under current GAAP (Kraft, 2009; Moody's, 2005). The common feature shared by these transactions is that their exclusion results in balance sheets that systematically understate the entity's financial leverage. From the viewpoint of creditors,

⁵⁴ Notice that purchase accounting requires the allocation of total acquisition price (a verifiable amount) to acquired assets and liabilities, goodwill, and other intangibles. This allocation is not verifiable. However, our proposed accountability role for goodwill implies that management is accountable for the full acquisition price rather than just that component allocated to tangible assets, which makes the allocation itself less important.

securitizations represent financing transactions that increase the entity's leverage. Consequently, the major ratings agencies, as well as certain debt covenants, adjust balance sheets to include the effect of these transactions.⁵⁵

This view of the balance sheet has implications for the recent discussion regarding the appropriate treatment of off-balance sheet transactions. SFAS 140 allowed entities to derecognize assets and liabilities transferred to other entities as part of securitization transactions, largely through the use of vehicles known as “qualified special purpose entities (QSPEs).” Notwithstanding this accounting treatment, some argue that the originating entity (usually a bank) retains an economic obligation to fulfill the SPE's obligations in the event its assets are insufficient to satisfy the claims of creditors (the investors who purchase various types of asset-backed securities).⁵⁶ Under the efficient contracting view, unless obligations are truly disposed of in an economic sense, failure to reflect such items on the balance sheet overstates the net assets available to creditors. This issue has received a good deal of attention in the wake of the 2008–09 subprime financial crisis, in which the value of these securities and the associated securitization vehicles collapsed, and has caused the FASB to revise its thinking on this issue and to eliminate the QSPE concept for securitizations.⁵⁷ It thus appears that market forces pushed the FASB to move its accounting back into line with what efficient contracting predicts.

As the events of the 2008–09 financial crisis make evident, an important feature of with-recourse securitizations (or those that otherwise do not represent an economic sale of assets) is

⁵⁵ The principal ratings agencies also adjust the balance sheet classification of hybrid securities to counter firms' tendency to underreport debt on the balance sheet by classifying hybrid securities into the equity or “mezzanine” sections of the balance sheet (Moody's, 2005).

⁵⁶ As indicated above, the ratings agencies, which have a strong creditor perspective, also make this argument.

⁵⁷ See FAS 166, *Accounting for Transfers of Financial Assets—an amendment of FASB Statement No. 140* (issued June 2009) now codified as FASB ASC 860 (“Transfers and Servicing”).

that they allow entities to become highly leveraged without that leverage being evident on the balance sheet. In our view, this is indicative of a failure of the balance sheet to achieve one of its fundamental economic objectives—to provide outsiders with a clear picture of the entity’s obligations. Bear Stearns and Lehman Brothers both had *balance sheet* leverage ratios in excess of 30-to-1 in periods before they failed, with overall economic leverage substantially higher than that.⁵⁸ Transactions such as securitizations, through their multiplicative nature, made it possible for entities to achieve levels of leverage many times greater than was reflected on their GAAP balance sheets. This means that relatively small declines in asset values can quickly result in insolvencies, with attendant feedback effects on the economy. Under the efficient contracting view, balance sheets that do not clearly reflect this leverage are of little use to creditors (and ultimately equity investors as well).

More generally, the economic theory of GAAP implies that assets and corresponding obligations from transactions such as leases, purchase commitments, and hedging (via derivatives) transactions be reflected in the financial statements in a manner that represents their economic substance, and more specifically that a “control” test be adopted. That is, we view the balance sheet as appropriately reflecting those assets and corresponding liabilities over which the entity can exercise a greater degree of economic control than any other entity, consistent with the view that the balance sheet should give a comprehensive accounting of the assets available to satisfy the obligations of creditors and be useful for the purpose of monitoring.

In the case of leases, for example, the economic theory implies that standard-setters’ proposed approach (to recognize all noncancelable leases on the balance sheet as assets and

⁵⁸ See these banks’ fiscal 2007 10-K filings, with balance sheet leverage measured as the ratio of total liabilities to stockholders’ equity. Information on off-balance sheet financing is available in these entities’ footnotes.

liabilities) is too aggressive.⁵⁹ Setting aside some of the practical implementation issues, under the economic approach we advocate the capitalization of those leases that, in economic substance, are essentially asset purchases financed by debt. This means that relatively short-term lease transactions (such as a three year automobile lease) would not be recognized on the balance sheet because the entity does not have control over the corresponding asset, which is therefore not available to satisfy creditors' obligations.

A practical problem with this approach is the same as that currently encountered under GAAP, such as FASB ASC 840 (formerly SFAS 13), which uses specific criteria to classify leases as capital or operating leases. Under this rule, entities can, at relatively low cost, structure lease contracts to strategically avoid classification as a capital lease (e.g., by structuring the lease term to be shorter than 75% of the useful life of the asset). One approach to this problem that is currently being considered by standard-setters is to treat all non-cancelable lease arrangements as capital leases and record them on balance sheets. While this approach removes incentives for companies to structure leases to achieve off-balance sheet treatment, it also results in capitalization of what are, in economic substance, operating leases. An alternative approach would categorize and account for leases as either operating or capital leases, similar to the current model, but increase the economic costs of artificially structuring capital lease transactions to obtain operating lease accounting treatment.⁶⁰

⁵⁹ As of this writing, the FASB (joint with the IASB) plans to release an exposure draft on leasing in the third quarter of 2010. This exposure draft would eliminate the distinction between capital and operating leases and so effectively capitalize all transactions that meet the definition of leases. See http://www.fasb.org/cs/ContentServer?c=FASBContent_C&pagename=FASB%2FFASBContent_C%2FProjectUpdatePage&cid=900000011123, last accessed July 29, 2010.

⁶⁰ For example, one of the current requirements triggers capital lease treatment when the present value of the minimum lease payments equals or exceeds 90% of the fair value of the leased property. Assuming that companies are able to avoid the other capital lease criteria, this allows them to avoid capital lease treatment if they are able to structure the lease so that they fall below the 90% threshold. This would be more costly to achieve if the threshold were lowered to say 80% of the fair value.

The asset recognition rule based on economic control described above excludes most executory contracts, including purchase commitments, from recognition on balance sheets. These transactions do not give rise to assets and liabilities as long as the business is a going concern, so that the economic claims and obligations are resolved in the normal course of business. Further, efficient contracting implies the adoption of a liability definition similar to that currently employed in U.S. GAAP under FASB ASC 450 (formerly SFAS 5); that is, liabilities are recognized when there is (i) a probable future sacrifice of resources, (ii) that results from a past transaction or event, and that is (iii) measurable in monetary terms. Thus, in most instances an efficient contracting approach would not reflect the effects of contracts like purchase commitments or guarantees on the balance sheet except to the extent of the expected value of the costs that would be incurred in the event such contracts were broken.⁶¹

The efficient contracting approach to dealing with contingencies such as these is not to require balance sheet recognition, but rather to ensure that pertinent information about the nature of the contingency and the magnitude of the potential loss is disclosed in footnotes. However, it is not clear that footnote disclosure of off-balance sheet obligations, even if these disclosures are relatively complete and transparent, is a substitute for recognition. Although there is evidence that relatively sophisticated users of financial statements (such as credit ratings agencies and private lenders) adjust balance sheets to include the effect of items disclosed in footnotes, it may well be that other users (perhaps individual investors) place lower weights on the financial

⁶¹ FIN 45, released by the FASB in 2002, requires entities that provide guarantees to recognize a “stand ready” obligation at fair value on the balance sheet. In our view it is more appropriate to treat such obligations in the conventional way as contingencies because this better represents the economics of the transaction (this effectively means that the likelihood of having to make good on the guarantee is “possible” and not “probable,” the terms used in ASC 450).

obligations left off an entity's balance sheet.⁶² Further, explicit and implicit contracts may well be based on balance sheet numbers without complete adjustment for footnote information if contracting and information costs are non-trivial, which we see as being descriptive. Further, Bernard and Schipper (1994) conjecture that recognition in financial statements provides a signal about the reliability of measurement. This may cause users to place greater weight on certain items that are recognized rather than disclosed.⁶³

3.1.2. Balance Sheet Measurement Rules

The existing accounting model measures balance sheet assets and liabilities using a “mixed attribute” model. With certain exceptions, most balance sheet items are recorded on a modified historic cost basis; that is, they are initially recorded at cost, amortized or allocated to expense in a systematic way, and are subject to an impairment test, which reduces amortized cost to a lower amount if the assets are judged to be impaired. In general, assets cannot be revalued upwards under U.S. GAAP, even if they were previously written down (with the possible exception of certain assets, such as deferred tax assets, for which there is an allowance). This reflects the longstanding tendency for U.S. GAAP to be conservative.

The FASB began to move away from strict adherence to this model and towards fair value accounting with the release of SFAS 115 (codified as ASC 320) in 1993. Under this rule, most marketable investment securities (both equity and debt securities) are measured at fair

⁶² See Leftwich (1983), and Kraft (2008).

⁶³ Under FASB ASC 450, balance sheet recognition of contingencies signals that managers have relatively precise information about the expected loss while non-recognition indicates the opposite. We are agnostic about the reasons certain individual investors place greater weight on items that are recognized on balance sheets rather than being disclosed. For some experimental research on this question see Maines and McDaniel (2000); and Libby, Nelson, and Hunton (2006). We assume here that GAAP does not give management a choice about whether to recognize or disclose a given item. If there was such a choice, management's decision to recognize an item would clearly be informative and so recognition and disclosure would not be equivalent.

value on the balance sheet with changes in fair value taken either to income or directly to equity (as part of dirty surplus). The fact that fair value accounting (other than through impairment accounting) was first introduced for these assets, which trade in liquid secondary markets and for which market values are likely to provide a better measure of liquidation value than the cost basis, is consistent with what one would expect under efficient contracting (i.e., use market values only when those values can be objectively verified by reference to external transactions).⁶⁴

In 1998, the FASB released SFAS 133 (codified as ASC 815), which applied much the same fair value accounting model to derivative securities. Although SFAS 133 extended fair value accounting to securities whose value is sometimes hard to determine reliably, the rule applies to derivatives that represent both assets and liabilities of the entity. One effect of this rule was to increase the reporting transparency of entities' derivatives positions, which previously had largely been kept off the balance sheet in spite of the fact that derivative transactions could expose the entity to large losses.⁶⁵ Thus, this rule helps protect creditors and other stakeholders from bearing losses by ensuring that the balance sheet provides a more timely and more complete rendering of the entity's economic obligations, as well as the resources available to satisfy those obligations.⁶⁶

⁶⁴ Consistent with the efficient contracting view, this rule was spurred by the U.S. Savings and Loan crisis of the 1980s, under which banks' investment portfolios, then recorded on an amortized cost basis, turned out to have liquidation values well below book values, which generated large losses for bank creditors, which suggests a failure to record impairments on a timely basis. This resulted from the practice under which these entities "cherry picked" their investment portfolios to realize accounting gains.

⁶⁵ This is particularly true of derivatives that trade on markets without margin requirements. When dealers require a margin that depends on the securities' values, losses are less likely to get out of hand because the trader (the company) is forced to cover its losses as they occur. When there are no margin requirements there is no such discipline, which provides a role for fair value. In other words, fair value accounting can serve as a substitute disciplining role for entities' trading activities.

⁶⁶ Prior to this rule, entities could engage in derivatives transactions, including speculative positions, about which there was little or no disclosure.

Given the efficient capital allocation objective for GAAP, it is useful to consider whether fair value is an appropriate measurement basis for balance sheet items generally. If reliably measured, it seems clear that measurement at fair value is superior to the use of the historic cost basis as a means of providing information about the potential economic values of assets, provided those assets are separable.⁶⁷ Thus, a sufficient condition for the reliable measurement of these items is that they trade in liquid secondary markets, as is the case currently for investment securities.⁶⁸ If such markets are unavailable, however, it is harder to envision fair value being viable, especially if the determination of fair value is largely a matter of managerial judgment.

In the absence of liquid secondary markets, one might consider using a “mark-to-model” approach under which a generally accepted valuation methodology (such as the Black-Scholes model for options valuation) is used to estimate fair value. There are at least two problems with such an approach. The first relates to the reliability of model inputs. In the case of employee stock options (ESOs), for example, there is evidence that managers manipulate estimated model inputs to reduce the estimated fair value and thus the potential adverse income statement effects (Aboody, Barth, and Kasznik, 2006; Bartov, Mohanram, Nissim, 2007). The second problem relates to the reliability of the model. In the case of ESOs, for example, the model is known to be less reliable when the instrument in question is not traded on liquid secondary markets or

⁶⁷ This is not to say that because fair values are reliable measures of economic value it follows that they should be used for balance sheet measurement purposes. As we have emphasized, the balance sheet’s primary role is one of efficient contracting, for which modified historic costs (with an impairment rule) are likely to be more suitable even if they are less ‘value relevant’ with respect to equity values.

⁶⁸ This requires that the fair value of the investment is the exit price under liquidation, i.e., the firm will be a price taker if it decides to sell the investment. This is a reasonable assumption if the firm does not have a substantial stake in the underlying investment (meaning a stake lower than that which would give it “significant influence,” which triggers the use of the equity method).

when other assumptions of the model are not satisfied (the Black-Scholes approach to pricing options is less reliable in the case of ESOs because those securities are not traded). While we know that using the conventional Black-Scholes approach over-estimates the value of ESOs because these securities are not traded (Huddart, 1994), there is no reliable way of quantifying the appropriate discount.

As discussed previously, one of the problems with recognizing goodwill as well as certain other internally-developed intangibles is the difficulty of establishing fair values for these items (which is necessary to implement rules that require initial measurement on a historical cost, i.e., transactions basis combined with periodic testing for impairment). This occurs because intangibles do not trade in liquid secondary markets, which reflects the fact that most internally developed intangibles have the following attributes: (i) poorly defined property rights (including a relatively high cost of establishing control over the benefits from the asset), (ii) non-separability (the economic value of intangibles often arises from their combination with other assets, as for example in the case of economic rents), (iii) uncertain economic values because of the uncertainty of future benefits, and (iv) information asymmetry between management and outsiders with respect to value measurement. Consequently, it is difficult to envision the contracting use of fair values in accounting for intangibles.

Consider also the case of the FASB's recent statement that provides entities with a broad "fair value option" in accounting for financial instruments (FASB ASC 825, formerly SFAS 159). Under this rule, an entity's liabilities as well as its assets can be measured at fair value on the balance sheet. In the case of the entity's obligations, fair value is measured as the present value of the future cash outflows, discounted at the entity's cost of debt. Thus, if an entity's credit worsens so that its cost of debt increases, the measured fair value of the debt declines (a

higher discount rate is applied to the constant cash flows). This means that these obligations are not measured at the amounts actually due to the entity's creditors; thus, the treatment of liabilities under SFAS 159 can significantly understate the actual obligation if the entity is in financial difficulty. In addition, under this treatment the income statement reports a gain, which implies that overall firm value is unaffected by these events and that equity value has increased. It is hard to see how this accounting improves the income statement's role in measuring the entity's economic performance, especially as it pertains to the manager. An efficient contracting perspective suggests that this accounting degrades the balance sheet's ability to provide meaningful information to creditors and others, as well as the income statement's role in measuring performance.

Overall, while we recognize that there are advantages to the use of fair values in the financial statements, these advantages must be balanced against some significant disadvantages.⁶⁹ In the area of marketable investment securities, the tradeoff favors the use of fair value accounting. For derivatives, which do not always trade in liquid secondary markets, the tradeoff is less favorable because fair values are not independently observable and must be estimated by management, rendering them subject to manipulation. For a number of reasons, including the fact that fair values are unobservable, it is unlikely that the recognition of goodwill and other intangibles will prove useful for efficient contracting purposes. Further, applying the fair value model to the entity's long-term debt obligations degrades the role of both the balance

⁶⁹ Christensen and Nikolaev (2009) provide some interesting evidence on the use of fair value accounting for non-financial assets when firms have the ability to choose. These authors look at IFRS adoption in Europe which effectively allowed companies in the U.K. and Germany to choose either conventional historic cost accounting or fair value accounting for their non-financial assets. The authors find that a large fraction of the companies that had previously used fair value accounting for at least one class of non-current used the adoption of IFRS to change to historic cost. In contrast, there are almost no companies that used historic cost accounting prior to IFRS that chose to switch to fair value. The only exception to this is investment property owned by real estate companies, where fair value seems appropriate from a stewardship standpoint. The overall conclusion is that very few companies choose fair value accounting in practice.

sheet and income statement for efficient contracting. To summarize, we do not expect that the expanded use of fair values, which is an important feature of current standard setting agendas at the FASB and IASB, enhances the value of financial reporting under efficient contracting.

The concerns we express on fair-value accounting are motivated primarily by the potential for misuse when fair values are not verifiable. This is particularly important when the income statement and balance sheet are viewed as satisfying performance evaluation and stewardship roles, respectively, as under the economic theory described in Section 2. Moreover, given managers have asymmetric incentives to use unverifiable fair values to overstate (rather than understate) income and net assets, the use of fair values in determining write-ups (rather than write-downs) is more of a concern.⁷⁰ In affording managers the potential to write-up assets and income based on estimates of future cash flows, accounting is likely to prove less useful for efficient contracting. It is important to note that this distinction between the use of fair values in write-ups versus write-downs is often lost in the public debate on fair-value accounting. In fact, criticism of fair-value accounting since the financial crisis has often focused on the potential adverse consequences to banks from having to write-down net assets due to the application of fair value models.⁷¹

3.2. The Income Statement

⁷⁰ This is not to say managers will not abuse fair-value-based discretion to avoid timely write-downs. In certain asset classes such as goodwill, where fair-values estimates are particularly unverifiable, impairment is not timely (Ramanna and Watts, 2010).

⁷¹ For example, in October 2008, *The Wall Street Journal* (Williamson and Scannell, 2008) quoted a senior congressman, Rep. John Boehner as citing “onerous mark-to-market rules” for “worsen[ing] the credit crisis...” Then presidential candidate Sen. John McCain also weighed in, stating “there is a serious concern that [mark-to-market] accounting rules are worsening the credit crunch.”

Under efficient contracting, the principal role of the income statement is to measure periodic performance, particularly of management. Under this view, GAAP rules governing income statement recognition have evolved to reflect the incentives of various contracting parties, particularly managers' incentives under compensation plans and managers' incentives to stay in their jobs.⁷² Consequently, revenue recognition criteria traditionally employed under GAAP defer the recognition of revenue until: (1) the entity provides goods and services to the customer, and reaches the point that no significant uncertainty remains regarding its ability to perform under the terms of the contract (i.e., revenue is 'earned'); and (2) payment is reasonably assured. Thus, even when cash is received in advance, recognition of revenue is deferred until such time as the entity (management) actually delivers on its contractual promises.

Moreover, as discussed in Section 2, income measurement rules require lower verifiability for recognizing losses and higher verifiability for gains. Such conditional conservatism guards against management's incentives under most compensation arrangements to opportunistically boost reported earnings to increase the present value of their compensation, particularly since it is very costly to recover that compensation *ex post*, and has evolved as an equilibrium contractual response to these types of agency problems (e.g., see Jensen and Meckling, 1976; Watts and Zimmerman, 1986).

One of the disadvantages of conditional conservatism is that it does not provide timely information to investors relative to the information impounded in stock prices (Kothari, 2001). This leads us to consider whether a more timely approach to revenue recognition is feasible. To deliver a system of income measurement that provides more timely information to investors requires a different way of recognizing revenue. It seems likely that most of the current value

⁷² Paradoxically, there is no strong evidence of a relation between CEO turnover and firm performance (e.g., Brickley, 2003).

increases impounded in stock prices during a given period relate to the market's anticipation of revenues. For example, the market responds favorably when Boeing announces an important customer has committed to buying new aircraft; however, the associated revenues are not recognized as part of income until the aircraft is actually built, Boeing has a binding sales arrangement with the customer, and (in most cases) some cash or some claim to cash has been received.

It seems impractical to us to recognize revenue at the time Boeing's customers initially indicate that they will purchase aircraft because there are numerous circumstances under which customers can renege on such promises or Boeing can fail to deliver. More generally, revenue recognition when managers conceive projects they believe will be profitable seems impractical and inconsistent with an income statement satisfying a performance measurement role. Because managers are evaluated and compensated based on income statement numbers, and because revenue recognition under such a system relies heavily on managerial judgments, such a system would provide them with incentives to opportunistically recognize revenues early. Once management is paid, it is costly to recover compensation that is too large, *ex post*.⁷³ Instead, by deferring the recognition of revenue, we provide management with ongoing incentives to exert effort in such a way as to maximize the value of the project. That is, the revenue recognition principle helps resolve the moral hazard problem that exists between managers and stockholders. Finally, as should be clear from the rapidity with which the macroeconomic situation deteriorated during 2008 and 2009, until the point of sale there is often significant uncertainty about whether customers will actually agree to take delivery of and pay for the aircraft.

⁷³ This problem is mitigated to the extent that management holds equity claims that impound this information. However, managers' compensation is likely to be more sensitive to short-run performance measures such as earnings than changes in the value of their equity claims.

Similar problems arise with respect to the determination of the costs that are matched to these revenues, since they also would have to be estimated well in advance of when they are actually incurred. This estimation must take place in the absence of costs actually being incurred, estimates of efficiency, or even the feasibility of production (witness the delays that continue to plague Boeing's ability to deliver its new Dreamliner 787 aircraft).

Finally, an approach that allows management to recognize revenues as products are developed requires companies to recognize the value of projects in advance of completion and record impairments if the value of the project becomes overstated. However, there is evidence that the timing and magnitude of impairments is discretionary (managers again have a significant informational advantage) and that managers can exploit this discretion to strategically delay and/or reduce the amount of impairment charges.

The IASB and FASB have been considering very significant changes to the GAAP rules governing revenue recognition. Consistent with their general philosophy of financial reporting, they are considering implementing a balance sheet approach to revenue recognition under which revenue would be recognized by measuring changes in the values of assets and liabilities that are associated with contractual arrangements with customers.⁷⁴ One version of this approach currently under consideration would measure changes in the fair value of these assets and liabilities as a means of recognizing revenue for the period rather than using an approach, similar to the extant model, under which recognition is driven by the output-based (realized) measurement of economic performance delivered (earned) for each period. For the reasons we discuss above—that is, because such an approach would not address the agency and incentive

⁷⁴ See observer notes to meetings of the IASB in November 2007 and January 2008, available here: <http://www.iasb.org/Current+Projects/IASB+Projects/Revenue+Recognition/Meeting+Summaries+and+Observer+Notes/IASB+November+2007.htm>. Also see Schipper et al. (2009).

problems between management and stockholders—we expect that the fair-value-based revenue recognition model is likely to reduce the value of accounting in efficient contracting. Also, it is unclear how expenses would be determined under such a model.

3.3 Summary

The forces outlined in Section 2 predict a GAAP consistent with a performance measurement role for the income statement and a stewardship role for the balance sheet. We therefore develop specific GAAP recognition and measurement rules under efficient contracting for performance evaluation and stewardship purposes. Because the recognition and measurement roles are not completely concordant, reconciling the two financial statements requires the use of dirty surplus accounting. We argue that certain existing GAAP rules—such as the revenue recognition principle—arise naturally from the income statement’s role in measuring performance and that recent prescriptions to change the revenue recognition model in fundamental ways are unlikely to have long run survival value for efficient contracting. Moreover, we argue that the balance sheet’s stewardship objective precludes the recognition of certain assets such as goodwill and has implications for the measurement of assets and liabilities. The economic view of GAAP implies that fair value accounting is unlikely to be tenable except for certain limited classes of assets because it fails to reflect the fundamental need for accounting conservatism and because it opens the door for managerial manipulation given the lack of verifiability of many fair value measurements.

4. Implications of the theory for developing GAAP in the future

We next turn our attention to broader policy issues in standard setting. In this section we focus on three conceptual issues that are likely to affect the future development of GAAP. First, in Section 4.1, we address the origin and consequences of the regulation of standard setting, i.e., why we regulate GAAP and how regulatory systems can be designed to generate GAAP rules consistent with the forces that affect the demand for and supply of financial statements that we describe in earlier sections. Given regulation, we argue that competition between the FASB and IASB is likely to enhance the extent to which GAAP rules satisfy economic demands relative to a regime under which these bodies cooperate, as effectively occurs under the current ‘convergence’ model. Moreover, the evidence suggests that local political and institutional forces affect country-level GAAP rules.⁷⁵ We therefore argue that a single global standard setter like the IASB is unlikely to be successful if its goal is to achieve similarity in accounting practice around the world. Countries embracing international standards are likely to modify and adapt those standards to local conditions.⁷⁶ In the process, international standards are likely to devolve into country- or regional-level variants.

Second, in Section 4.2., we discuss the role of choice in accounting standards: while regulation by definition limits accounting choice, regulators still have considerable flexibility to determine how much discretion managers, accountants, and auditors have in preparing financial statements. All else equal, efficient contracting implies a regulatory environment that allows managers, accountants, and auditors to innovate on performance measurement systems. We also address the contemporary debate on principles versus rules, and explain how this comparison,

⁷⁵ Similar to the discussion in previous sections, many of the points we make here are not novel and have been discussed in the literature previously. Select references include Ball et al. (2000), Ball (1994, 2001), Benston et al. (2006), Dye and Sunder (2001), Hail et al. (2009), and Watts (2006).

⁷⁶ See for example, China’s process of convergence with IFRS, which, among other exceptions, precludes the use of most fair-value accounting (e.g., Ramanna, Donovan, and Dai, 2010).

while meaningful to an extent, oversimplifies the issues in according accounting choice to managers.

Finally, in Section 4.3., we address the role of the market efficiency assumption in standard setting. As in Section 1, a fundamental objective of financial reporting is to promote efficient capital allocation. Standard setters' perspective on the efficiency of capital markets with respect to accounting information is thus an important consideration in how they craft accounting standards. A growing literature on stock market mispricing with respect to accounting information could prompt GAAP regulators to consider standards on the basis of the form of financial statements. We discuss why for both conceptual and practical reasons it would be unwise for standard setters to abandon the market efficiency assumption in standard setting.

4.1. Role of regulation

The regulation of GAAP in the United States originated in the 1930s. Before this time, accounting practice was determined largely at the firm and auditor level, with little formal coordination among the players. "GAAP" represented just that: *generally accepted* accounting principles.⁷⁷ Baxter (1979) notes that the establishment of the SEC marked the beginning of a four-decade journey to the "standardization" of GAAP: the first accounting regulator to operate at the behest of the SEC, the Committee on Accounting Procedure (1939–1959), produced "Accounting Research Bulletins;" its successor, the Accounting Principles Board (1959–1973), produced "Opinions;" and it was not until the Financial Accounting Standards Board (FASB)

⁷⁷ The term "generally accepted accounting principles" did not come into formal use until 1936 (Zeff, 1972, p.129).

came into being in 1973 that regulators began promulgating “Statements of Financial Accounting Standards.”⁷⁸

Even since the 1970s, the role of the accounting standards regulator in the United States has been evolving. Perhaps the most significant part of that evolution was the Sarbanes-Oxley Act of 2002. This Act, for the first time, formalized the role of the accounting standard setter, granting the FASB (or its successors) *de jure* status as the regulator of U.S. GAAP (U.S. Congress, 2002, Sarbanes Oxley Act, Sec. 108). Until the passage of the Act, the FASB had been funded largely through voluntary contributions from corporations and audit firms. The Act prescribed that listed corporations be assessed a tax to support the operations of the FASB (U.S. Congress, 2002, Sarbanes Oxley Act, Sec. 109).

There is little consensus on why we regulate GAAP and whether such regulation is necessary to facilitate efficient capital allocation.⁷⁹ The study of the regulation of GAAP is important for our purposes because it can help explain the nature of accounting standards produced by the FASB, and can predict how different standard setting models are likely to affect what GAAP will look like in the future. We organize the remainder of this section around a discussion of the various theories of regulation as they apply to the regulation of GAAP. We then discuss the implications of these theories for the design of accounting standard setting institutions going forward, particularly in light of the growing presence of the IASB in standard setting.

⁷⁸ Dye (2002) provides an explanation for the “perpetual” increase in standardization by making the distinction between *de jure* and *de facto* standards: *de jure* refers to formal standards as presented by regulators; *de facto* to equilibrium accounting practices as actually observed. Dye argues that as investors learn about firms’ production functions, *de facto* standards change. Then, in order to keep the distance between *de jure* and *de facto* standards more-or-less constant, regulators write new *de jure* standards.

⁷⁹ For example, Sunder (2002) and Barth (2006) provide different perspectives on the need for GAAP regulation. While Barth argues for regulation because accounting standards are a “public good,” Sunder argues for market-based approaches to standard setting.

The regulation of GAAP is distinct from the regulation of securities disclosure more generally. The former refers to the practice of specifying acceptable accounting principles and rules, whereas the latter to the practice of requiring that entities that access public capital markets disclose certain information, including financial information and financial statements.⁸⁰ The motives for regulating disclosure lie in assumptions about market failure in endogenously arising markets for financial information (due to externalities and information asymmetries) and concerns about the fairness of equilibrium outcomes generated in such markets. We avoid a discussion of this issue, referring the interested reader to the well-developed literature in this area.⁸¹ Our focus is instead on the regulation of GAAP, a phenomenon that has, in the United States, arisen out of regulated financial reporting, but that can arise independently of such as well (as in the case of the IASB).⁸²

In discussing the regulation of GAAP, we define “regulation” broadly to include a study of the organized production of mandated accounting standards by so-called private standard setters like the FASB and the IASB.⁸³ In the course of their standard setting activities, these organizations define the grammar of accounting practice as well as accounting rules and principles, and thus exert considerable influence on observed financial reporting.

⁸⁰ In particular, in the U.S., the SEC mandates a great deal of disclosure through Regulations S-X and S-K, which include but are not limited to disclosures that it mandates as part of registrants’ formal periodic 10-K and 10-Q filings. Regulation S-K includes the requirement that firms provide financial statements prepared in accordance with GAAP and that these financial statements be audited.

⁸¹ See, for example, Stigler (1964), Benston (1969 and 1973), Mahoney (1999), Seligman (2003), and Mahoney (2009). Leuz and Wysocki (2008) provide an excellent survey of the literature in accounting (and related fields) on the regulation of disclosure.

⁸² Also related to the regulation of GAAP is the regulation and oversight of auditing, which in the United States is conducted by the Public Company Accounting Oversight Board. We do not address the scope and limitations of auditor regulation, although many of the issues raised below with respect to GAAP can also be applied to auditing.

⁸³ In the U.S., “private” standard setters have operated at the behest of the SEC to provide “substantial authoritative support” (Zeff, 2005a). Internationally, the “privately” developed IASB standards are mandated in many jurisdictions (see for example, Ramanna and Sletten, 2009).

A vast literature in political economy is dedicated to the regulation of economic activity. That literature has produced three major theories to explain the existence and consequences of regulation:

1. Public interest theory of regulation
2. Capture theory of regulation
3. Ideology theory of regulation

We devote the remainder of this section to a brief discussion of these theories in the context of the regulation of accounting standards.

4.1.1. Public interest theory of regulation

Public interest theory describes regulation as a benevolent and socially efficient response to market failures (Pigou, 1938). Breyer (1982) describes the four commonly offered justifications of market failures discussed under public interest theory: (i) natural monopoly; (ii) externalities; (iii) information asymmetries; and (iv) excess competition (also see Leftwich, 1980). We discuss below externalities and information asymmetries as they are more likely to apply to GAAP standard setting.

The externalities argument for regulation assumes that the equilibrium price of a product does not reflect its true cost. This can be because public resources are consumed in manufacturing the product or because the product is non-excludable (i.e., the cost of excluding non-paying consumers from enjoying the product exceeds the product's benefit to those consumers). In the case of products that use public resources (e.g., products that pollute the environment), overproduction is likely, resulting in wealth transfers from society to the manufacturer. In the case of non-excludable products, underproduction is likely, resulting in

deadweight losses. Regulation of products with externalities is expected to set production to welfare maximizing levels.

It is difficult to argue that producing accounting standards results in the consumption of significant public resources. Thus, overproduction due to externalities is unlikely to be a justification for regulating accounting. Accounting standards can, however, be considered non-excludable (see for example, Gonedes and Dopuch, 1974; Leftwich, 1980; Watts and Zimmerman, 1986; Sunder, 1988). Thus, one can argue that if left unregulated, accounting standards will be under-produced, resulting in deadweight losses. The absence of organized standard setting in the pre-SEC period in the United States is consistent with underproduction of accounting standards in an unregulated environment.⁸⁴

The information asymmetry justification for regulation is perhaps best understood through Akerlof's (1970) description of adverse selection. Information asymmetry between buyers and sellers on the quality of a product prompts the buyers to demand a discount from sellers. The sellers of high quality products exit the market since the discount is such that it makes production of their products unprofitable. With the absence of high quality products in the market, buyers demand deeper discounts forcing even more sellers to exit. The process continues until no buyers and sellers remain, i.e., the market breaks down. Regulation helps prevent this market failure by mandating credible quality disclosures from sellers.⁸⁵

⁸⁴ Given the relatively low costs of funding a standard setting body (e.g., total annual FASB expenses throughout the early 2000s were under \$40 million in an economy with a multi-trillion dollar stock market), it is reasonable to argue that if there are substantial benefits from organized standard setting, a coalition of the prospective beneficiaries will voluntarily form (absent regulation) to produce such standards. This argument does not negate underproduction as a rationale for regulation; it suggests the possibility of a collective-action solution.

⁸⁵ Alternatively, private institutions such as auditing can emerge to prevent market failure. For example, Watts and Zimmerman (1986, p. 316) discuss how "chartered accountants" arose in nineteenth century U.K. to address information asymmetry between managers and owners.

The information asymmetry argument can be used to justify disclosure regulation, but justifying the regulation of GAAP under this argument is less compelling. The information asymmetry justification applies to circumstances where the potential consumers of a product are uninformed about the quality of the product. If one views managers and accountants (preparers) and auditors as the primary consumers of accounting standards, the information asymmetry argument would imply that these groups are unqualified to choose among alternative privately developed accounting standards: a seemingly self-destructive assertion.⁸⁶ Casual observation of the nature of U.S. GAAP prior to regulation is inconsistent with this argument. Before the 1930s, managers, accountants, and auditors generated their own accounting “standards,” from common practice, which is inconsistent with the claim that they are unsophisticated.⁸⁷

Of the justifications for regulation usually offered under public interest theory, only underproduction due to externalities is likely to be able to explain the regulation of accounting standards, and so we address this explanation in greater detail in subsequent discussion.

The public interest theory essentially sees regulation as a benevolent and socially efficient response to market failures and so models the regulator as an incorruptible and infallible entity. This is a strong assumption because, for example, it excludes the possibility of lobbying and its potential effects on regulatory outcomes (unless lobbying is viewed as benign). Nevertheless, the assumption seems consistent with some accounting regulators’ views of their

⁸⁶ In lamenting the growth of accounting standardization, Baxter (1979) presciently observed: “We may indeed envisage a brave new world in which an accountant spends his whole life applying rules pro-pounded by others -- unless at last, full of years and honors, he himself ascends to the Accounting Principles Board, and then for the first time must face reality.”

⁸⁷ Alternatively, one can view the regulation of accounting standards as part of the regulation of disclosure more generally, in which case investors in the public capital markets are the consumers. However, this perspective cannot then be used to analyze the regulation of accounting standards.

own work. In explaining how academic research can inform standard setting, Barth (2006, p. 72) eschews the need for research into standard setters' objective function.

“Whether and how research can inform standard-setting issues have long been the subject of debate among academics... [Some believe] that despite standard setting's regulatory role, research can provide insights into standard setting issues by operationalizing the criteria the standard setters establish for deciding among alternatives when developing standards... These criteria are specified in the conceptual frameworks of the FASB and IASB, thereby eliminating the need for researchers to specify the unspecified objective function of standard setters.”

There are two unstated assumptions in this statement: first, that the FASB and IASB specify a socially optimal objective function for the purpose of standard setting; and, second, that the FASB and IASB are able to execute their objective function without bias or error. Evidence consistent with these two assumptions is likely to be of considerable interest to both academic research and public policy since it would identify the FASB and the IASB as efficient regulators, consistent with public interest theory. Given the lack of evidence supporting public interest theory in accounting and other spheres of regulation, we question whether the above assumptions are in fact likely to hold.⁸⁸

4.1.2. Capture theory of regulation

The public interest theory's assumption of an incorruptible and potentially infallible regulator is the focus of the capture theory of regulation (Stigler, 1971). The capture theory models regulators as economic agents who seek to maximize their own utility. Regulators are usually described as politicians consuming some mixture of money (bribes) and power (votes, prestige, popularity, etc.).

⁸⁸ Dopuch and Sunder (1980, p. 18) argue that there is “little evidence that official statements of objectives of financial accounting have had any direct effect on the determination of financial accounting standards.” See also the literature of the effects of corporate lobbying on FASB standard setting, dating from Watts and Zimmerman (1978) as well as the arguments and evidence in Watts and Zimmerman (1979).

The intuition for capture theory is relatively straightforward. Producers seeking wealth transfers from society lobby politicians for favorable regulation (e.g., mandated pricing above marginal costs). Politicians provide such regulation to the point that it does not affect their reelection chances. In return for providing favorable regulation, politicians demand bribes (such as cash, perks, post-public-service employment, etc.). The citizenry is unable to stop collusion between politicians and producers because of the free rider problem (Olson, 1965): i.e., the individual benefit to a citizen from stopping the wealth transfer is lower than the combined cost of becoming informed on the issue and subsequently organizing other citizens on the issue.

Models of regulatory capture (e.g., Peltzman, 1976; see Dal Bo, 2006, for recent review) imply that regulation in product markets can either be socially beneficial or socially costly, depending on whether the product market in question is prone to market failure in its natural unregulated state. This makes the analysis of market failures particularly important. If there is no market failure in a given product market (see Leftwich, 1980, for arguments about market failures in accounting), regulation is undesirable. Even under market failures, the capture theory implies that (i) regulation results from a self-serving use of the political process; and (ii) regulation is unlikely to generate the socially optimal (first best) solution because regulators seek to maximize their own utility. The desirability of regulation under market failure thus depends on the relative magnitude of the costs of opportunistic regulators versus the costs of market failure.

Under capture theory, GAAP regulation can be explained as the result of rent seeking actions by producers of accounting standards, i.e., managers, accountants, and auditors lobbying to achieve regulation that serves their own best interests. For example, managers, accountants, and auditors may seek regulation to insure against the risk of producing “poor quality” accounting standards (i.e., standards less likely to facilitate efficient capital allocation). The poor

quality standards can be either more or less risky than those sustainable in market equilibrium (in that they may over- or under-emphasize the role of management and auditor judgment, relative to standards generated in a long-run competitive equilibrium). In either case, managers, accountants, and auditors shift the costs (risk) of accounting innovation to society while capturing benefits, if any. The emergence of GAAP regulation in the 1930s, a period during which accountants were criticized for poor accounting practices through the 1920s, is consistent with this hypothesis (see for example, Ripley, 1927, for criticisms of accounting practices in the 1920s).

The risk of producing “poor quality” accounting standards, and its associated costs, can be attributed to two factors: loss of reputation and legal liability. If an accounting judgment is determined *ex post* to be erroneous, managers, accountants, and auditors can lose their credibility as experts, affecting future business prospects. These professionals can also experience legal liability: when faced with a legal challenge of their accounting opinion, they are likely to prefer citing an authoritative regulation over their own professional judgment. In fact, the greater the legal liability faced by managers, accountants, and auditors, the greater their demand for regulated standards. Casual observation of time-series evolution of accounting regulation—from “research bulletins” under the CAP, to “opinions” under the APB, to “standards” under the FASB—is consistent with increased equilibrium demand for regulation by accountants and auditors as the legal environment in the United States became more litigious (see Kothari, Lys, Smith, and Watts, 1988, for a summary of the time-series increase in corporate litigiousness in the United States). We further explore the issue of legal liability on the nature of GAAP in Section 4.2.

The capture theory has limitations. For example, entrepreneurial law firms and public interest groups can provide checks to opportunistic regulatory capture. Moreover, the empirical evidence on the capture theory is mixed (see Dal Bo, 2006, for a recent review). For example, studies that attempt to relate legislative voting on regulation to campaign contributions by corporations have generally been unable to establish a bribery motive (see Milyo, Primo, and Groseclose, 2000, for a review; and Stratmann, 2002, as a rare exception). These data are consistent with a more nuanced view of regulators and this is the focus of the final theory, the ideology theory of regulation.

4.1.3. Ideology theory of regulation

Similar to the public interest theory, the ideology theory of regulation relies on the premise of market failures. However, unlike the public interest theory the ideology theory allows for special-interest lobbying to influence the actions of regulators.

Formal analytical work in political economics posits that regulators are neither as benevolent as suggested by public interest theory nor as self-serving as assumed in capture theory (e.g., Grossman and Helpman, 1994; Austen-Smith, 1995). The work follows empirical observations that were inconsistent with capture theory (e.g., Kau and Rubin, 1979; Kalt and Zupan, 1984). Under this alternate model of regulatory behavior, regulators are exogenously endowed with political “ideologies.” The precise nature of these ideologies is usually not specified, allowing the ideological spectrum to vary across multiple dimensions (e.g., conservative to liberal, altruistic to corrupt, etc.). Regulatory outcomes are the joint result of political ideologies and the effects of interest-group lobbying on regulators (in this sense, regulators can be described as “semi-benevolent,” Persson and Tabellini, 2000). The ideology

theory helps explain empirical studies' inability to establish a one-to-one causal relation between corporate lobbying activities and politicians' votes on regulations.

The key innovation in ideology theory is that lobbying is not an explicit form of bribery, but rather a mechanism through which regulators are informed about policy issues. In other words, interest groups lobby regulators in order to convey their specific knowledge about the issues being regulated. Since regulators have "ideologies," a successful lobbyist must frame the information such that it is consistent with the lobbied regulator's ideology (Grossman and Helpman, 2001). Money is involved in lobbying in order to make the information provided a costly signal (thus preventing cheap talk). This is similar to the way that Watts and Zimmerman (1979) describe the development of accounting standards, particularly the role of academics who provide "excuses" that help rationalize regulators' ideological beliefs.

The ideology theory can be applied to accounting standard setting to explain the regulation of GAAP. If accounting standards are assumed to be non-excludable in nature, then underproduction due to externalities predicts that a private market for accounting standards would fail. Regulation then arises to provide accounting standards, although this regulation is not always socially optimal because regulators are not assumed to be benevolent or omniscient.⁸⁹ Regulators have ideologies (e.g., they believe strongly in balance-sheet primacy or fair-values) but are open to lobbying from constituents with specific knowledge. In the case of accounting standard setting, this information can be in the form of direct lobbying (e.g., comment letters

⁸⁹ An interesting question that arises here is: why would the SEC delegate standard setting to the CAP and successor bodies. Weingast (1984) offers an explanation in the context of the relationship between Congress and independent regulatory agencies (like the SEC). He argues that regulatory agencies allow Congress to expand its jurisdiction to many areas of the economy (through delegation). Agency shirking is prevented by self-serving agency bureaucrats (who seek to curry favor with Congress) and the committee system in Congress (which promotes oversight specialization among congresspersons). The Weingast model can be applied to explain the SEC's delegation of accounting standard setting: the delegation frees up SEC time to focus on other areas of regulation. In this context, see Melumad and Shibano (1994).

from constituents) or indirect persuasion through members of Congress allied with the constituents.

The ideology theory makes no prediction about the optimality of regulation. In this theory, regulation arises to correct market failures, but the presence of political ideologies and potentially manipulative constituent lobbying can skew the design of regulation so that it fails to maximize social welfare.

4.1.4. Implications of the theories of regulation

Under public interest theory, the regulation of GAAP can be explained by the underproduction of accounting standards in a free market due to their non-excludable nature. GAAP regulation is socially optimal because regulators are infallible. If the public interest theory is correct, no further discussion on standard setting issues is necessary (c.f., Barth, 2006).

Under capture theory, GAAP regulation is influenced by the accounting profession (including the audit profession and perhaps preparers as well), which seeks to reduce the risk of “poor quality” standards.⁹⁰ “Poor quality” standards are those that deviate from standards generated in a long-run competitive equilibrium. The risks from “poor quality” standards include both reputational concerns and legal liability that can arise from accounting and audit failures that are attributable, at least in part, to poorly defined accounting standards. The capture theory predicts that regulated GAAP allows more, and perhaps excessive, risk-taking in the choice of accounting methods than privately-produced GAAP because society shares the costs of failure (as opposed to these costs being fully internalized by the accounting profession).

⁹⁰ Zeff (2005a) details some key events in the early history of standardization in the US and discusses the active role of accountants and auditors in that process.

Alternatively, regulated GAAP rules may be less innovative than GAAP produced by market forces because private players do not capture the benefits from innovation.

If capture theory is correct, the policy implication is to stop producing *de jure* GAAP and return to a *de facto* GAAP that arises from accounting practices with long-run survival value. We cannot be sure what the nature of such a *de facto* GAAP will be—prior to mandated standard setting under the SEC, there was no formal private standard setting body. However, as we explain in previous sections, a set of GAAP rules based on a performance evaluation and stewardship view is more likely to have long run survival value than other forms of GAAP. In the pre-SEC era, accounting “standards” emerged as best practices from firm-level accounting and auditing decisions. Auditors endogenized the risk of the accounting procedures they developed and were thus responsible for maintaining the quality of these procedures. An auditor-based solution for determining GAAP reduces some of the likely costs of regulation, including those of regulatory “capture” and/or the imposition of regulators’ “ideologies.”

An alternate market-based solution to standard setting is to bundle standard setting with stock exchange level regulation. In this model, stock exchanges develop their own accounting standards, which companies endogenously commit to when they decide to list on a given exchange. Because stock exchanges compete with each other, the process encourages innovation in accounting standards. Further, because certain stock exchanges tend to attract particular types of firms (e.g., the NASDAQ or London’s AIM), exchanges are likely to develop accounting standards that best serve their clients’ economic characteristics, thus providing the exchanges with an added dimension to compete. This type of system would allow the accounting standards to reflect enforcement practices in the exchange’s jurisdiction (e.g., Ball, 2001). In the exchange-based arrangement, the costs of producing poor quality standards are borne by the exchange. If

an exchange develops standards that do not facilitate efficient contracting for their constituent firms, the exchange will bear at least some of the consequences (e.g., loss of reputation).⁹¹

The implications of capture theory are that standard setting should be bundled with a private good (like auditing or stock-exchange listing) so that it can be produced through an unregulated market process. While this argument is compelling, we do not expect there to be much political will in the coming years to dismantle existing standard setting institutions.⁹² We thus turn to the ideology theory of regulation for more practicable proposals.

Ideology theory accepts the fact that regulation of GAAP is due to market failure. It then becomes an empirical question as to whether this regulation is in fact socially optimal. The effectiveness of regulation depends on the effects of regulators' political ideologies and the impact of special-interest lobbying on regulation.

If the ideology theory has descriptive validity, the key policy implication is to design a standard setting institution that minimizes the effect of idiosyncratic ideologies and special-interest lobbying. One way to achieve this is to encourage competition among standard setters (Ball, 1995; Dye and Sunder, 2001; Sunder, 2002; Benston et al., 2006).⁹³ Some level of competition among standard setters is likely to reduce the influence of ideologies and increase the likelihood of achieving a GAAP that emphasizes performance evaluation and stewardship,

⁹¹ One potential drawback to transferring standard-setting to auditors and stock exchanges is moral hazard. If audit firms and stock exchanges are considered "too big to fail," they will have incentives to produce standards that are riskier than those generated in market equilibrium.

⁹² In addition, there are other practical and institutional barriers to such an approach, such as the fact that companies are likely to have to continue to list on their home country exchanges, which would impose their own disclosure regulations, including accounting standards. So, for example, an Australian company that lists in Hong Kong would still be subject to Australian securities laws and accounting regulation. See Hail et al. (2009) for further discussion on this and related points.

⁹³ Hail et al. (2009) also discuss the possibility of competition among standard-setting regimes, either at the country level, the exchange level, or the firm level, including some of the institutional difficulties to achieving this type of competition.

which under our arguments are more likely to have survival value.⁹⁴ Competition helps to prevent any one ideology from dominating GAAP. Competition is also likely to reduce the effects of special interest lobbying. If a standard setting body is perceived as being vulnerable to special-interest lobbying, it can lose credibility. Further, competition helps lower the costs to society when any given standard setter fails. If there is an institutional body of knowledge to standard setting (e.g., operational and organizational know-how), it is costly to let the only standard setter in an economy fail, even when it is corrupt or inefficient. With competition, the institutional knowledge of standard setting is spread across multiple bodies, so the costs of eliminating any one non-performing standard setter can be lower.

In discussing the implications of both the capture and ideology theories, it becomes clear that some level of competition is necessary to generate efficient standard setting. If independent standard setters are to compete, an important question to consider is what their objective functions should be. The non-excludable nature of accounting standards suggests that for-profit standard setting is unlikely to be viable. If accounting standard setters are motivated by prestige, competition among standard-setting bodies can be sustained on the basis of standard setters maximizing personal prestige and reputation.⁹⁵ A more tangible option is for standard setters to compete on both personal prestige and on funding from constituents. Both the FASB and the IASB have at some point in their existence relied on voluntary funding to maintain their operations. Accordingly, we envision a setting where the FASB and the IASB compete on

⁹⁴ National standard setting monopolies, although politically independent from each other, are subject to competitive forces because the GAAP they produce is likely to affect capital and trade flows to their countries. However, a single global standard setting monopoly (without national standard setters) is unlikely to experience such competitive forces.

⁹⁵ If standard setting bodies get too large, a free-rider problem among board members can mitigate incentives to compete on prestige. We are not aware of empirical evidence on the size of standard-setting bodies and standard-setting outputs.

reputation, wherein high quality standards result in more funding and thus, more resources for further production of accounting standards.⁹⁶

There are some potential pitfalls to competition as a solution to regulated standard setting. First, under some circumstances, competition can induce a “race to the bottom.” Specifically, if markets are unable to price-protect against wealth-extractive standards, special-interest groups will have an incentive to seek out opportunistic standard setting. In this case, instead of competing on quality, standard setters will compete (knowingly or unknowingly) on their ability to supply favors to special interests.⁹⁷

Second, the large loss function in standard setting (i.e., the termination of standard-setting bodies that can result from producing standards that are socially costly or unpopular) can create an incentive for competing standard setters to cooperate. By cooperating (and eventually merging), standard setters pool the risk from producing poor quality standards. The current “convergence project” between the FASB and the IASB is consistent with this observation. As discussed earlier, such cooperation is unlikely to be efficient in that it stifles innovation, increases the possibility that particular ideologies will be influential, and promotes the influence of special-interests in standard setting. With respect to the U.S. situation, one solution to the current cooperative agreement between the FASB and the IASB is for the U.S. courts, the U.S. Congress, or the SEC to expressly dismantle the convergence project and allow U.S. listed firms

⁹⁶ More generally, our point on competition is that some level of competition between standard setters is preferable to none. For many of the benefits of competition to accrue, even limited competition is sufficient; “perfect competition” in standard setting (i.e., a situation where standards emerge from best practice) is unlikely to be tenable given the long history of regulated standard setting in the U.S.

⁹⁷ Huddart, Hughes, and Brunnermeier (1999) model stock exchanges competing on disclosure requirements and find that such a setup can result in a “race to the top” even under certain institutional impediments that restrict the flow of liquidity. Interestingly, in a roughly analogous setting—the competition among U.S. states for corporate incorporations—there is little evidence that competition has had adverse effects. In fact, in a summary of the law and economics literature in this area, Romano (2006, p. 211) states that: “State competition for incorporations has spurred an innovative legal process that is responsive to a rapidly changing business environment to the benefit of firms and their investors.” For a somewhat less optimistic view, see Bebchuk (1992).

to adopt IFRS without reconciliation to FASB standards. This arrangement will likely force the two standard setting bodies into competition. To level the playing field under this FASB-IASB competition approach, European listed companies can also be given the option to choose FASB standards.

There are two other (related) reasons why competition (rather than convergence) between the IASB and local accounting standard setters is more likely to generate GAAP rules that facilitate efficient contracting. First, a growing body of evidence suggests variation in country-level institutions, including accountant and auditor training, quality of enforcement, rule of law, and culture, shapes the nature of accounting standards and financial reporting locally (e.g., Ball, Kothari, and Robin, 2000; Ball, Robin, and Wu, 2003; Skinner, 2008b; and Ball, 2009). Therefore, it is unlikely that a single set of global accounting rules (e.g., IFRS) will generate world-wide conformity in accounting practice, much less result in efficient contracting. For example, recent reports in the financial press (e.g., Sanderson, 2010) suggest efforts to converge accounting practices across the twenty largest economies are “under threat” despite the fact that senior political leaders in these countries remain committed to convergence. In particular, “fair value accounting has proved one of the most divisive issues” in convergence because regulators across these countries cannot reach a consensus on the use of mark-to-market and mark-to-model methods, especially in periods of declining asset values.

Second, there is also evidence of political interference in standard setting, both in the U.S. and internationally (e.g., Watts and Zimmerman, 1978; Zeff, 2005a, b; Ramanna, 2008). The political forces that shape local GAAP standards are unlikely to recede in the wake of worldwide IFRS adoption. For example, at one point, the management of Enron attempted to influence standard setting at the International Accounting Standards Committee in exchange for

a \$500,000 donation.⁹⁸ Moreover, developed, sovereign countries are unlikely to accept IASB standards in the wake of strong local opposition. For example, reports in the press suggest efforts to converge accounting rules for banking supervision have faltered due to protests from French, German, and Japanese interests (e.g., Jenkins and Masters, 2010); in Japan, there is concern over proposals to exclude deferred tax assets from computing capital adequacy ratios since in some years such assets “have accounted for the majority of bank capital.”⁹⁹ Thus, what starts out as an internationally harmonized set of rules is likely to devolve into standards adapted to local political conditions, suggesting that attempts to converge accounting standards globally are futile.

Studying the political economy of accounting requires a theory of the behavior of regulators and standard setters. In this section, we have outlined three such theories from the political economy literature. The capture and ideology theories are more likely to explain regulatory behavior and provide a useful starting point for academics to study the political nature of accounting standards. While regulators and standard setters enjoy considerable discretion in setting the agenda for the future of accounting, we know very little about the incentives of

⁹⁸ Specifically, Enron’s audit partner at Arthur Andersen, David Duncan, was quoted in an email discussing the donation, “While I think Rick [Causey, Enron’s chief accounting officer] is inclined to do this given Enron’s desire to increase their exposure and influence in rule-making broadly, he is interested in knowing whether these types of commitments will add any formal or informal access to this process (i.e., would these types of commitments present opportunities to meet with the trustees of these groups or other benefits)...” (Quoted from Sweeney, 2009).

⁹⁹ See Skinner (2008b) for evidence on this. Another example, in the wake of declining financial markets in 2008, the IASB allowed financial institutions to suspend market-to-market accounting and thus avoid costly impairments. Several commentators in the financial press (e.g., Leone, 2008) have suggested that the IASB made this decision in response to political pressure from the European Union.

standard setters, their ideologies, and the degree to which they are captured.¹⁰⁰ A body of literature in accounting political economy can, in the long run, provide us with a systematic understanding of the behavior of regulators and standard setters. Such evidence is critical to understanding how a GAAP that facilitates economic efficiency develops.

4.2. The role of choice within GAAP: Principles or rules?

In this section, we discuss the implications of the economic theory of GAAP for the role of choice within GAAP. The previous discussion suggests that GAAP rules are most likely to have survival value if they emerge as a set of accounting “best practices” absent regulation, which under efficient contracting view of GAAP means that they serve in performance evaluation and stewardship. In a free market, best practices develop over time through innovation in accounting methods. Diversity in accounting practice, or accounting choice, is thus essential to the development of GAAP rules that facilitate efficient contracting. Without accounting choice, there can be no experimentation, and without experimentation, “best practices” cannot develop (see for example, Hayek, 1945; Porter, 1996; and Hayek, 2002, on the role of competition and choice in developing best practices). Absent frictions, infinite accounting choice might be available in an unregulated setting; in practice, however, we expect accounting choice to be limited by human ingenuity and transaction costs, including limits set forth by

¹⁰⁰ For example, we know of no research in accounting that addresses what is referred to in the economics literature as the “revolving door” problem (e.g., Dal Bo, 2006). The revolving door problem is drawn from the observation that regulators in most specialized fields such as accounting are former practitioners with close ties to industry, and who, in many cases, upon leaving regulatory office, return to industry. Thus, there is a “revolving door” between regulatory bodies and the industry they regulate. The revolving door has benefits since persons with experience in a specialized industry have the expertise required to design effective regulation. At the same time, the revolving door can create conflicts of interest: close ties and the potential for future employment create incentives for regulators to favor the regulated. At issue is whether the benefits of revolving doors exceed the costs. Evidence on this question will be useful in developing the optimal criteria for service on regulatory bodies (including requirements on past experience in industry, restrictions on post-regulatory appointments, term limits, etc.).

courts and other institutions concerned with enforcing contracts written on financial statements (see for example, Ball, 2009, on the role of enforcement in determining accounting practice).

The importance of accounting choice in an unregulated setting has implications for the role of choice under regulated GAAP. While regulation, by definition, constrains the accounting choice set available to managers, accountants, and auditors, we have little evidence on the costs and benefits of limiting accounting choice in this way. Accounting choice develops in free markets because different measures of income, assets, and liabilities are likely to be appropriate in different economic situations, in particular due to contracting, tax, regulatory, and political demands for financial statement information (Watts and Zimmerman, 1986). As argued in previous sections, under the economic view of GAAP, accounting varies across firms so as to facilitate implicit and explicit contracting among the various parties to the firm. These different economic situations persist under regulation, increasing the cost of regulators constraining choice in accounting. In constraining accounting choice, regulators often cite concerns over comparability, consistency, and potential for manipulation as their justifications.¹⁰¹ As noted earlier, because comparability and consistency are likely to facilitate firms' ability to raise capital and more generally to transact with various contracting parties, accounting standards that develop absent regulation are also likely to display these features.¹⁰² Further, a free-market-based

¹⁰¹ For example, concerned over "complexity" in accounting, SEC chairman Cox in 2007 convened an advisory committee to address the issue. The advisory committee concluded that accounting "complexity" was due in part to diversity in accounting practice and recommended that the FASB eliminate such diversity where possible. Recommendation 1.7 of the committee (SEC, 2008, p. 49) states: "U.S. GAAP should be based on a presumption that formally promulgated alternative accounting policies should not exist. As such, the SEC should recommend that any new projects undertaken jointly or separately by the FASB not provide additional optionality, except in rare circumstances. Any new projects should also include the elimination of existing alternative accounting policies in relevant areas as a specific objective of those projects, except in rare circumstances."

¹⁰² Jamal, Maier, and Sunder (2005) study the comparative properties of e-commerce privacy standards that (1) developed under government regulation (United Kingdom) and (2) evolved in the absence of regulation (United States). They found that the standards in the United Kingdom "improve[d] neither the disclosure nor the practice of e-commerce privacy relative to [those in] the United States." They highlight the implications of their results for accounting standards that are likely to develop absent regulation.

set of accounting standards that has evolved to promote efficient contracting is also likely to minimize standards that facilitate manipulation since absent regulation, the full cost of poor quality standards is borne by the private standard setters (including accountants and auditors) that produce the GAAP (assuming courts enforce contracts written on that GAAP).¹⁰³

Related to the issue of choice in accounting is the current standard-setting debate on principles versus rules. Recently, and especially in the wake of the accounting failures at Enron and WorldCom, “rules” in accounting have come under attack and GAAP in the U.S. has been compared unfavorably to IFRS as being too “rules-based” (e.g., SEC, 2007). Below we provide a framework to understand the debate on principles versus rules and investigate whether “rules-based accounting” does in fact deserve the pejorative connotation it has come to receive.

Given the regulation of GAAP, the question of principles versus rules can be viewed as debate among regulators on the benefits and costs of according greater choice to firms (including managers and other contracting parties) in determining accounting numbers. In the extreme, under a principles-based regime, regulators set broad accounting “principles” and let the relevant contracting parties apply those principles to the specific economic contexts they encounter.

¹⁰³ Consistent with this claim, notable accountants prior to regulation in the United States generally embraced conservative practices. For example, even when dealing with liquid short-term investments, William A. Chase, sometime president of the National Association of CPA Examiners eschewed market-based revaluations: a 1916 textbook, *Higher Accountancy: Principles and Practice*, edited by him, states (Chase, MacClintock, Willis, and Hirschl, 1916, pp. 188–89): “If stocks are purchased for speculative purposes or as short-term investments for idle funds or for purposes of resale, they are equivalent to merchandise, and the rule of ‘cost or market, whichever is lower,’ applies.”

Conversely, in a rules-based regime, regulators provide these parties with detailed guidance, minimizing the need for managers and other contracting parties to exercise judgment.¹⁰⁴

The difference between principles and rules can be viewed through the funnel-shaped diagrams in Figure 1. Absent regulation, firms can choose to account for a given economic transaction without restrictions. Regulator-determined principles and rules limit that choice to a subset of alternatives. The limits are based on regulators' incentives and loss functions, and depend on their concerns over comparability, consistency, and reliability. On any given issue (e.g., revenue recognition), principles (Panel A), by their nature, give firms a larger subset of accounting choices than rules (Panel B). These choices are subsequently limited by boards of directors, accountants, and auditors (to an "accepted set" of accounting procedures) based on the firm's contracting and information environment until the manager eventually chooses a given method to report the transaction (e.g., Watts and Zimmerman, 1986; Watts and Zimmerman, 1990; Skinner, 1993). For example, consider a hypothetical scenario where there are no regulatory restrictions over revenue recognition. Given the agency problems that we describe in Section 2, managers are likely to be restricted *ex ante* to a set of available revenue-recognition practices that reflect managers' informational advantage, their incentives to overstate periodic performance, as well as their incentives and opportunities to take other self-serving actions.

The gradual limiting of accounting choices across regulators, boards, accountants, and auditors from the original choice set to the eventual accounting method used traces the shape of a deep funnel in a principles-based regime and a shallow funnel in a rules-based regime. The shape

¹⁰⁴ In general, preparers and users consider U.S. GAAP as being more rules based and IFRS as being more principles based (SEC, 2008). This judgment is based both on the length of U.S. GAAP standards versus IFRS standards—U.S. GAAP standards are longer because they contain detailed implementation guidance—and on the presence of much lower tier GAAP in the US, including FASB Interpretations, FASB Staff Positions, SEC guidance (usually in the form of Staff Accounting Bulletins), EITF interpretations, etc. In part because of this complexity, the FASB has just implemented a codification project (Accounting Standards Codification) which provides a single source of authoritative US GAAP.

and slope of the funnel, in effect, reflect firm-level restrictions on the accounting choices available to managers (including those imposed by the board); the firm-level restrictions are a function of the degree of accounting-method autonomy granted at the regulatory level.

The idea, in theory, behind a principles-based regime is to set broad boundaries and let firms, including managers, accountants, and auditors develop practice within these boundaries: the understanding being that boards and managers have specific knowledge about their firms' economic situation, including the contracting, regulatory, political, and tax environment, and so can better satisfy the demands of the different contracting parties as well as taking into account factors that affect the supply side of financial reporting. A principles-based approach requires a well-articulated underlying framework (to define core financial statement elements such as assets and liabilities) and provides a foundation for the accounting practice that is expected to develop. Given our earlier arguments, we expect this framework will include important accounting properties such as conservatism, verifiability, the revenue recognition principle, and other features that are likely to best facilitate efficient contracting. A potential byproduct of providing boards, managers, and auditors with the flexibility to develop accounting practice is the potential for innovation in accounting methods: the broader the principles, the greater the room for innovation. Of course, according firms the flexibility to work with "principles" can introduce costs in terms of decreased immediate comparability and increased potential for manipulation. A desire to mitigate these costs is what motivates a rule-based system. Thus, the debate between principles and rules can be viewed as a debate between the benefits and costs of locating relatively more accounting choice at the manager/board/auditor level. Since, as argued earlier, accounting choice is responsible for accounting innovation, the question of principles versus

rules can be restated as a question of the relative benefits of having accounting innovation happen at the standard-setter versus firm level.

This type of theoretical construction of the debate between principles and rules is somewhat different to that observed in practice. For example, a main objective of the FASB's work in this area, as stated on its website, is to reduce industry-based exceptions to accounting methods, and so, paradoxically, to reduce management choice.¹⁰⁵ Benston, Bromwich, and Wagenhofer (2006) provide a detailed discussion of this issue. These authors argue that a principles-based approach combined with an asset-liability/fair value model for accounting is unlikely to be feasible because the use of fair values in practice will result in a large number of implementation complexities that will inevitably lead to detailed accounting guidance. In Benston et al.'s (2006, p. 185) view "the FASB will have to promulgate very detailed rules governing the permissible inputs to and applications of pricing alternatives even when ostensibly using a principles-based regime. Otherwise, on what basis could auditors challenge managers' assertions about appraisals, comparable prices, and valuation model inputs such as expected cash flows, probabilities and relevant discount rates?" These predictions seem to have been borne out in the financial crisis given the significant levels of detailed guidance provided by both the SEC and the FASB to financial institutions wrestling with the implementation of new accounting rules at a time of almost unprecedented turmoil in financial markets.¹⁰⁶

¹⁰⁵ http://www.fasb.org/project/principles-based_approach.shtml

¹⁰⁶ During the financial crisis regulators at the SEC, FASB, and IASB scrambled to provide more detailed accounting guidance to banks and other financial institutions in the area of accounting for financial instruments, including loans, with respect to the definition of fair value rules and impairment accounting. For example, there was a demand for more detailed guidance with regard to the classification and measurement of Level 1, 2, and 3 financial instruments as well as the classification of securities between held-to-maturity categories (generally not subject to fair value accounting) and other categories (which are generally subject to fair value accounting).

Allowing innovation in accounting practice becomes particularly important if accounting is of strategic importance rather than simply being a compliance tool. In other words, if there are rents to be earned from developing superior accounting contracting measures (for example, companies with better contracting measures are more likely to be able to raise capital cheaply), GAAP principles (rather than rules) are more likely to allow managers to capture those rents.¹⁰⁷ The distinction between principles and rules highlighted above is meant to inform a *regulator's* choice between the two systems. If a principles-based system is adopted, however, “rules” are not likely to disappear. This is because as a practical matter to most managers, accountants and auditors, the day-to-day application of principles will likely require detailed working rules for at least four reasons.

1. It is not likely to be cost effective for accountants and auditors to work with principles on a day-to-day basis. Authority on interpreting and implementing GAAP in an economy has to be delegated to thousands of rank-and-file accountants and auditors (for reasons of efficiency); this is possible only if working rules are formulated out of principles. As indicated above, we recently observed demand for detailed guidance about fair value accounting during the financial crisis as banks and other financial institutions wrestled with recent accounting standards that allowed them to use fair values but that did not provide detailed guidance.

¹⁰⁷ See, for example, the vast literature on the effects of improved disclosure on the cost of capital: Diamond and Verrecchia (1991), Botosan (1997), and Lambert, Leuz, and Verrecchia (2007). Healy and Palepu (2001) provide a review. Watts and Zimmerman (1986) discuss the notion that managers are better able to understand how different accounting methods affect their firms' interactions in the political and regulatory arenas, which is an argument for allowing more choice by managers.

2. If an audit opinion is challenged in court, auditors are better off citing a hard rule than an abstract principle that they have interpreted. Legal liability generates a demand for detailed accounting rules, and a preference that they are attributable to a government-sanctioned independent standard setter (and not simply “best practice”). This is typical of how detailed rules have emerged as an integral part of US GAAP; when faced with complex practical issues related to the implementation of accounting standards, it is common for accounting firms to petition the FASB and SEC for more detailed guidance.
3. Even in non-litigious countries, auditor reputation can lead to the development of working rules from broader principles (the likelihood of being questioned over the application of a rule is lower).
4. On day-to-day issues, for efficiency reasons, users of financial statements will prefer accounting reports that are prepared under working rules (i.e., there is unlikely to be a demand for accountants and auditors to “reinvent the wheel” on common transactions).

Thus, in a well-functioning accounting system, working “rules” and regulatory “principles” are two sides of the same coin. The distinction between the working “rules” that develop from the application of principles among accountants and auditors, and “rules” imposed by regulators cannot be understated. The former is generated under a system that is likely to generate accounting innovation; the latter is not. The distinction is often muddled in the public debates on “principles versus rules,” where “diversity in practice” is often cited as a negative consequence of a rules-based regime. For example, the 2007 SEC Advisory Committee on

financial reporting blamed diversity in industry practice as a source of “complexity” in accounting (SEC, 2007); and the FASB in its proposal to revise revenue recognition standards argues that the over 100 different industry standards on the “earned” criterion in revenue recognition are a manifestation of excessive “rules” in accounting (quoted from Schipper, Schrand, Shevlin, and Wilks, 2009).

We argue that diversity in industry practice often represents “working rules,” i.e., equilibrium accounting standards that have likely evolved to reflect the different economic circumstances, including efficient contracting technologies that emerge in different industries. Such diversity is essential to a well-functioning GAAP because without it, the value of financial reports in facilitating efficient contracting falls. Thus, while implementation of an economic theory of GAAP will likely lead to greater choice in accounting (as manifested by broad “principles” under a regulatory regime), as a practical matter we expect the choice to be guided by industry-based working rules. Eliminating such working rules under the desire for uniformity in an arbitrary “conceptual framework” is unlikely to result in a GAAP that can achieve its stated objective of efficient capital allocation.

4.3. Market efficiency assumption in standard setting

Standard setters’ perspective on the efficiency of capital markets is an important consideration in how they craft accounting standards. We begin this section with a brief summary of the evidence on market efficiency. We then explain why regardless of whether standard setters believe markets are efficient, it behooves us to use market efficiency as a maintained assumption in setting accounting standards. Specifically, we examine the conceptual and practical challenges standard setters would face if they were to abandon the maintained

hypothesis of market efficiency. We conclude with implications of market efficiency for standard setting.

4.3.1. Summary of evidence on market efficiency

The efficient markets hypothesis (see Fama, 1970) began to gain wide-spread acceptance among academics and practitioners in the 1960s. Initial evidence was largely supportive of market efficiency. Jensen (1978, p. 95) concludes that “The efficient market hypothesis has been widely tested and, with few exceptions, found consistent with the data in a wide variety of markets ...” This euphoria, however, did not last long as a steady stream of research provided evidence inconsistent with market efficiency (see Schwert, 2001, and Kothari 2001, for reviews of the stock-market anomalies literature). As this anomalous evidence became more accepted, financial economists developed behavioral finance theories to (predict and) explain the behavior of stock prices. The foundation for these theories is the evidence psychologists and experimental economists provide, which suggests “a number of departures from market rationality in the form of specific behavioral biases that are apparently ubiquitous to human decision-making under uncertainty ...” (Lo, 2005, p. 21).¹⁰⁸ Behavioral finance theories predict that security prices might deviate from fundamental valuations in part because (i) investors exhibit systematic behavioral biases that in the aggregate do not cancel, and (ii) arbitrage is costly (see Shleifer and Vishny, 1995).

Although numerous papers provide evidence of departures from market efficiency, interpreting this evidence as consistent with one or more of the behavioral theories has been a

¹⁰⁸ The psychological underpinnings to the behavioral finance theories are found in Kahneman and Tversky (1979), Shefrin and Statman (1994 and 2000), Shefrin and Thaler (1988), etc. For surveys of the psychology literature relevant to behavioral finance, see Hirshleifer (2001), Daniel, Hirshleifer, and Teoh, (2002), and Lo (2004 and 2005).

challenge, especially in out-of-sample tests.¹⁰⁹ Further, evidence ruling out gross inefficiencies is plentiful. For example, in comparison to the large magnitude of losses firms often report, security prices typically exhibit little, if any, reaction to firms' voluntary or FASB mandated decision to expense stock options and to firms' decisions about goodwill write-offs or other asset write-downs.¹¹⁰ Nor do the stock prices of firms choosing different accounting methods as permitted within GAAP (e.g., straight-line versus accelerated depreciation), and therefore reporting systematically different earnings numbers, differ systematically with differences in reported accounting numbers. Overall, the evidence from accounting method changes and accounting choice studies dispels the extreme notion that investors are, in equilibrium, fixated on reported financial statement numbers.¹¹¹

Instead, an overwhelming body of evidence suggests that stock prices largely anticipate the economic substance of the information in financial statements.¹¹² Reaction to firm specific as well as macroeconomic news occurs quickly although there is evidence to suggest a predictable drift in returns consistent with under-reaction as well as stock price reversal, consistent with overreaction.¹¹³ However, professional asset managers have been unable to consistently outperform the market, i.e., exhibit persistence in alpha, which supports the lack of

¹⁰⁹ See Fama (1998), Chan, Frankel, and Kothari (2004), Kothari, Lewellen, and Warner (2006), and Hirshleifer, Hou, and Teoh (2009) for a few examples of tests of behavioral finance theories.

¹¹⁰ We do not expect a zero stock price reaction to the reporting of the losses even if they did not have any direct cash flow effects because the losses might signal the firm's financial health and thus might have consequences for future cash flows, which rational markets would incorporate in setting the stock price.

¹¹¹ See Fields, Lys, and Vincent (2001) and cites therein.

¹¹² See Ball and Brown (1968) and the papers cited in Kothari (2001).

¹¹³ See, for example, the literature on the post-earnings announcement drift (Ball and Brown, 1968, and Bernard and Thomas, 1989) and Jegadeesh and Titman (1993); and for over-reaction to accruals (Sloan, 1996) and past stock-price performance (DeBondt and Thaler, 1985). There is a vast amount of finance and accounting literature that offers supporting as well as contradicting the evidence.

evidentiary correspondence between the behavioral finance theories of market inefficiency and observed security price behavior (see Fama and French, 2008, and Kosowski, Timmermann, Wermers, and White, 2006). Collectively, the research suggests the presence of some return predictability as an indicator of market inefficiency, but in practical terms its economic significance is weak.¹¹⁴ Schwert (2001, p. 32), in his survey of the academic evidence on market inefficiency, concludes “these findings suggest that anomalies may be more apparent than real.” From the perspective of standard-setting, we argue the evidence of market inefficiency is much like waves over deep sea waters—the tranquility of deep waters underneath swamps any indication of turbulence from waves on the top. As such, it behooves us to assume market efficiency in deliberating accounting standards.

4.3.2. Why should market efficiency be the maintained assumption?

The efficiency of stock market prices with respect to all publicly available information (“market efficiency”) describes an outcome that is desirable in that it facilitates the efficient allocation of capital resources and risk in society. Market efficiency is achieved through a host of endogenously arising institutions, including public financial reporting. In designing standards for public financial reporting, GAAP regulators must thus be cognizant of the relation of financial statement information to stock market prices.

Under the efficient market hypothesis, stock prices fully and unbiasedly incorporate all public (value-relevant) information. The implication for GAAP regulators is that the form of accounting information itself is not relevant to stock markets: the focus of markets is on the

¹¹⁴ In an efficiency market, returns can be predictable due to changing expected rates of returns (see Fama and French, 1988, and an extensive literature thereafter). The return predictability we allude to is that beyond the extent of predictability due to changing expected rates of returns, which would violate the efficient markets hypothesis.

substantive economic information in financial statements, i.e., whether a particular financial statement item (e.g., earnings, goodwill write-offs, etc.) provides information about the amount, timing, and uncertainty of future cash flows.¹¹⁵

The growing literature on stock market mispricing with respect to accounting information (discussed earlier) challenges the validity of the efficient market hypothesis. Nevertheless, for the following reasons, we argue that developing standards on the premise of market inefficiency markets is unlikely to prove to be a useful model for standard setters.

1. Market inefficiency is not an equilibrium theory: Unlike the efficient market hypothesis, which describes a capital market pricing equilibrium, behavioral theories about market inefficiency describe transient pricing, i.e., states that are not expected to persist in perfect market conditions. Moreover, there is no behavioral theory to describe the relation of accounting information to stock market prices in an equilibrium of market inefficiency. Absent an equilibrium theory of market inefficiency, regulation that assumes inefficiency has no natural starting point, and more importantly, no framework to guide markets back to efficiency. In other words, if GAAP is designed assuming market inefficiency, then it is unclear how such a GAAP would lead to an equilibrium state of market efficiency. Without a framework to understand the origin and persistence of irrational pricing, several important questions arise: Would inefficiency persist no matter what is the design of GAAP? Or

¹¹⁵ From a costly contracting perspective, form of accounting information does matter. The fact that for equity valuation the form of accounting information does not matter under market efficiency implies that form should be influenced by contracting considerations, where it matters.

worse, can inefficiency be exacerbated through poorly understood and thus poorly designed regulation?¹¹⁶

2. Practical difficulties with the market inefficiency assumption: As a practical matter, even if standard setters were to embrace inefficiency as the maintained assumption, we doubt market inefficiency has the potential to guide them in deciding on a suitable GAAP. What behavioral assumption should be assumed and therefore what form of inefficiency should be assumed? Should we assume prices over-react or under-react? Do they initially under-react, but then over-react if a firm reports a sequence of good news or a sequence of bad news, which triggers representativeness bias? How long should such a sequence be before under-reaction morphs into over-reaction on the part of investors? What should we assume with respect to arbitrage opportunities and the likely degree of success of arbitrageurs?

In raising the set of questions above, we do not intend to imply that we are dismissive of the hypothesis that individual investors (and perhaps the market) exhibit behavioral biases, which might lead to prices systematically deviating from the fundamentals. Even if investors were to exhibit behavioral biases, however, we argue that regulated GAAP should be designed as if market pricing is efficient, i.e., consistent with investor rationality, and prices, on average, reflecting economic fundamentals. For example, suppose we were to assume investors over-

¹¹⁶ As noted earlier, efficient capital markets are an equilibrium state that is achieved through numerous endogenously arising institutions, including regulation. Thus, it is possible that GAAP regulation, as an institution, can facilitate efficient capital markets. However, GAAP regulation that is conceived without a theory of efficiency will be *ad hoc* and reactive at best, or counterproductive at worst. Moreover, regulation, as an institution, is generally less susceptible to change in the face of non-performance than private-based solutions, i.e., regulations are “sticky.” Therefore, getting it right in the first place is important.

react to accruals. Would we then ask managers to report smaller absolute amounts of accruals because investors would be over-reacting to reported accruals? How much discretion would we give managers in such reporting? What guidance would we offer to auditors? The bottom line is that there is no realistic viable alternative to the fundamental assumption in standard setting that securities markets are informationally efficient.

4.3.3. Implications

The most important implication of the maintained assumption of market efficiency is that the debate over form versus substance in financial reporting is unimportant for equity valuation, although it is relevant for efficient contracting. Stated more strongly, if the analysis above is used to motivate accounting policy, the debate will not be in the context of pricing and trading rules, but rather, standard setters will focus on substantive aspects of the form versus substance debate. For example, standard setters will be concerned whether footnote disclosure versus inclusion of information in the body of financial statements conveys differential information about the level and variability of cash flows. If market efficiency is assumed, then whether GAAP offers considerable or very little choice to managers will hinge on considerations other than the perception that prices fixate on reported numbers. The agency problems discussed earlier will be of first order importance to standard setters in designing GAAP, whereas recognition versus disclosure or accounting choice *per se* will be relatively unimportant in the hierarchy of issues standard setters pay attention to in designing GAAP.¹¹⁷

¹¹⁷ The SEC's "fairness" objective in financial reporting can have a profound impact on the nature of standard setting if regulators conclude that capital markets are informationally inefficient. For reasons outlined in this subsection, we argue that abandoning the efficient markets hypothesis in standard setting is unwise. Nevertheless, the evidence on market inefficiency does behoove standard setters to address fairness concerns. We argue that such concerns can be addressed by recommending additional (non-GAAP) disclosure to meet this objective.

5. Conclusions, summary, and implications for future research

5.1. Summary

The editors of *JAE* charged us to provide a survey and economic analysis of the properties of GAAP. Based on the literature, we articulate a theory of GAAP that we hope provides guidance to accounting standard-setters as they shape GAAP in the future. The theory is based on prior research on the economic forces that shape the demand for and supply of GAAP-based financial statements. Our review is predicated on the maintained assumption that the objective of GAAP is the efficient allocation of capital resources in an economy. The theory provides a framework to predict how GAAP shaped by economic forces addresses various challenges in performance measurement and stewardship that shape the nature of the income statement and the balance sheet. In addition, using the theory, we compare and contrast extant GAAP, as it is produced in a regulated setting, with GAAP that would arise endogenously due to market forces.

5.1.1. Section 2: An economic theory of GAAP

Financial reporting is shaped by economic forces that affect the demand for and supply of performance measurement and stewardship. The equilibrium response to these demands on accounting is manifested through the income statement and the balance sheet. The two financial statements serve relatively distinct purposes due to the economic forces influencing their properties. However, the two statements are linked to each other by bookkeeping practices so that the properties of stewardship that are fundamental to the balance sheet also manifest themselves in the income statement, skewing performance measures downward. Conservatism

in performance measurement is economically efficient where observed because of the control role of the income statement: managers have incentives that raise fundamental questions about the credibility of their performance reporting. Circumstances where economic forces demand different properties of the income statement and the balance sheet are dealt with through dirty-surplus accounting.

5.1.2. Section 3: Balance sheet and income statement properties

We discuss the implications of the economic theory of GAAP for income statement and balance sheet recognition and measurement issues. We show how the economic theory explains the nature of longstanding accounting rules, including the asset recognition criteria. In particular, assets are recognized (i) on the basis of past transactions and events (ii) when property rights are well-established and (iii) when there is sufficient certainty about future realizations of cash flows to the entity. By specifying that property rights be well established, the economic theory requires that an asset is under an entity's control and is separable and saleable. The requirement on *sufficient* certainty about future cash flows is intended to recognize that there is a continuum of cash-flow uncertainty associated with all non-cash assets, and that the criterion for asset non-recognition in GAAP financial statements determines a discrete point in this continuum where accountants, auditors, regulators, and the courts deem the uncertainty to be unacceptably large for stewardship and performance evaluation purposes.

We also address the issue of asset measurement and re-measurement, i.e., the basis for accounting records. We acknowledge the advantage of using fair values in circumstances where these are based on observable prices in liquid secondary markets, but note that such markets do not exist for most assets. In the absence of verifiable market prices, fair values are determined

by management judgment and the evidence on the opportunistic use of this judgment is germane. Accordingly, we caution against expanding fair-value measurement to areas such as intangibles, as standard setters have sometimes proposed.

The principal role of the income statement is to measure performance for contracting, particularly that of management. Accordingly, the agency relationship between management and the firm's owners is predicted to be paramount in determining criteria for revenue recognition. We view the "earned" standard in extant revenue recognition rules as a reflection of concerns generated by this agency relationship (i.e., revenue is not recognized until effort is exerted), and the FASB's proposals to abandon this standard for fair-value-based revenue recognition rules as inconsistent with economic demands and therefore ill advised.

5.1.3. Section 4: Implications for standard setters

We address the origin and consequences of regulating GAAP. In particular, we examine why GAAP is regulated, and the characteristics of regulatory systems that are likely to generate a GAAP consistent with the economic theory. We conclude that dismantling the convergence project between the FASB and IASB and forcing these two bodies into competition are likely to be the most practical means of achieving GAAP rules that facilitate efficient capital allocation.

While regulation naturally limits accounting choice, regulators still have considerable flexibility in determining how much judgment managers, accountants, and auditors have in developing financial reports. There are economic reasons to suggest accounting choice is critical to the innovation and efficiency of accounting practice. Therefore, we support the idea of according managers, accountants, and auditors (rather than regulators) the decision rights to determining best practices in accounting.

Finally, we address the critical role of the market efficiency assumption in standard setting. We explain conceptual and practical reasons against abandoning the market efficiency assumption in standard setting. In particular, if GAAP is designed assuming market inefficiency, then it is unclear how such a GAAP would lead to an equilibrium state of market efficiency.

5.2. Suggestions for future research

The economic theory of GAAP reviewed in this paper characterizes GAAP as an institutional response to informational asymmetries and associated agency problems, including adverse selection and moral hazard, which would otherwise impede efficient capital allocation in a market economy. Sections 2 and 3 describe what are likely to be the most important properties of an equilibrium GAAP shaped by market forces absent regulation, while Section 4 describes the political forces that can move GAAP away from an economically efficient equilibrium in the presence of regulation. The literature on the economic determinants and properties of GAAP is more developed than that on the effects of the political and regulatory environment on GAAP, but important open questions remain in both areas. The 2008–09 financial crisis has spurred political involvement in accounting standard-setting, highlighting the need for research in this area. We first describe some open questions in accounting and the political process, before turning our attention to unexplored questions in the economics of standard-setting more generally.

- When and under what circumstances are political factors most likely to influence financial reporting? One obvious prediction is that economic crises such as the 2008–09 financial crisis create pressure on politicians to be seen as taking actions, and that accounting standards (and the bodies that generate them) can serve as convenient targets

(scapegoats) during such crises. What economic and political conditions are most likely to lead to political intervention in standard setting? Watts and Zimmerman (1986) develop some predictions along these lines, but in general there has been only modest progress on this topic since that time. This is in spite of the fact that politics apparently has first-order effects on standard setting.¹¹⁸

- How influential are firms' lobbying efforts, either directly through standard-setters' due process or indirectly through the political process, on accounting standards? Watts and Zimmerman (1978) initiated research in this area, but there are relatively few studies in this area (for recent exceptions, see Farber, Johnson, and Petroni, 2007, and Ramanna, 2008, on lobbying through political action committees, or PACs). Further, we still lack a well-developed framework to predict the influence of lobbying on GAAP. The theories of regulation described in Section 4 offer a structure for how we might think about these questions.
- The scarcity of empirical work on regulation of GAAP makes prescribing optimal regulatory structures in accounting particularly difficult. While Watts and Zimmerman (1978, 1979, 1986) propose a positive theory of accounting, where accounting standards result from economic and political forces, most subsequent positive research fails to consider the potential political nature of accounting standards. Given the critical importance of understanding how political forces shape accounting standards, we argue for more studies on the political process in accounting.
- Can accounting discretion at the firm level influence the political and regulatory processes? Over the past twenty years, there has been some work on the political costs

¹¹⁸ As one example, witness the apparent effect that political pressure had on the FASB's capitulation on accounting for stock options in the mid-1990s (Beresford, 1997; Zeff, 2005b).

hypothesis proposed by Watts and Zimmerman (1978, 1986)—the idea that managers can use their discretion in financial reporting to influence the likelihood of wealth transfers to or from their firms in the political process. Some papers in this area include Wong (1988), Jones (1991), Skinner (2008), and Ramanna and Roychowdhury (2010). However, the nature of political costs means that this research of necessity uses specific settings, such as particular firms, economies, and time periods. It would be helpful to have additional research to establish robustness and generalizability of results in this area.

- What forces affect how regulators influence the nature of accounting standards? Section 4 discusses various theories of regulation that provide different models of and predictions for the behavior of regulators. Given regulators' influence in setting the agenda for GAAP-based rulemaking as well as the rules themselves, what is the trade-off between ideology, political pragmatism, and economic efficiency in determining GAAP?¹¹⁹ What institutional features of standard setting might help reduce the effect of ideology and politics on standard setting?
- We do not have clear evidence on how the FASB (or the IASB) makes decisions. In Section 4 we discuss a number of economic theories of regulation that could be used to generate predictions about how standard-setters choose agenda issues, make decisions about accounting standards, and choose to remove items from their agendas without resolution. For example, how important are political considerations (for example, the IASB's apparent need to appease politicians in the European Union) relative to strongly held ideological perspectives (for example, the perceived superiority of fair values by certain standard-setters), conceptual accounting principles (the reliance on a conceptual

¹¹⁹ See Allen and Ramanna (2010) for some early evidence on this question.

framework in developing accounting principles), or an understanding of evidence on the use of financial statements in contracting, on accounting standards?

Our review also identifies a number of areas in the economics of GAAP in which there are unresolved issues that seem ripe for additional research. These are discussed below.

1. As discussed in Section 2, we abstract from agency problems between the board and management to focus on the more prominent agency problem between management and the stockholders. However, as is also discussed by Armstrong, Guay, and Weber (2010), future research might benefit from work that examines a fuller version of the agency problems between boards, managers, stockholders, as well as between different groups of stockholders (e.g., dominant family holders, individual minority holders, etc.).
2. Similar to recent suggestions by Armstrong, Guay, and Weber (2010) and Rowchowdhury (2010), although recent research has established associations between certain accounting attributes (such as conditional conservatism and earnings timeliness) and features of the contracting environment (such as the form and pricing of debt agreements and the nature of managers' investment decisions), we still know relatively little about precisely *why* these features have survival value in performance evaluation and stewardship, although the theory we review in Section 2 makes it clear that we have some understanding and predictions about this. Armstrong et al. (2010, pp. 103-104) indicate that there are open questions about how the nature of accounting systems affects lending decisions and the cost of debt and more generally about the importance of transparency in financial reporting to lenders. As they point out, such information would be useful to standard-setters as they grapple with questions of how to trade-off the

different informational and contracting demands of various contracting parties, such as lenders for debt contracting purposes and equity-holders for monitoring and valuation purposes.

3. An important issue in the debate on accounting standard setting is the extent to which certain longstanding attributes of financial reporting (such as conservatism, verifiability, and the traditional revenue recognition model) should be included as part of the general purpose GAAP. The alternative is that these principles underlie only the financial statements used by private contracting parties, such as debt holders, in their contracts with firms. For example, is it desirable for the general purpose statements (under GAAP) to be ‘unbiased’ or does it make more sense for GAAP to impose a certain amount of conditional conservatism in these statements (e.g., Guay and Verrecchia, 2006)? Recent research suggests that, because conditional conservatism is useful in mitigating agency problems beyond debt contracting, including those between management and stockholders (Ball, 2001; Watts, 2006; LaFond and Rowchowdhury, 2007), as well as in the tax and regulatory arenas (Watts, 2003a), the most efficient GAAP solution is likely to impose a certain level of conditional conservatism in general purpose financial statements, and that this is more efficient than making conservative adjustments in multiple contracts with parties to the firm.¹²⁰ However, beyond the fact that conditional conservatism seems to have long-run survival value as a feature of financial reporting, we have relatively little specific evidence on the costs and benefits of imposing certain accounting principles in the general purpose financial statements versus allowing

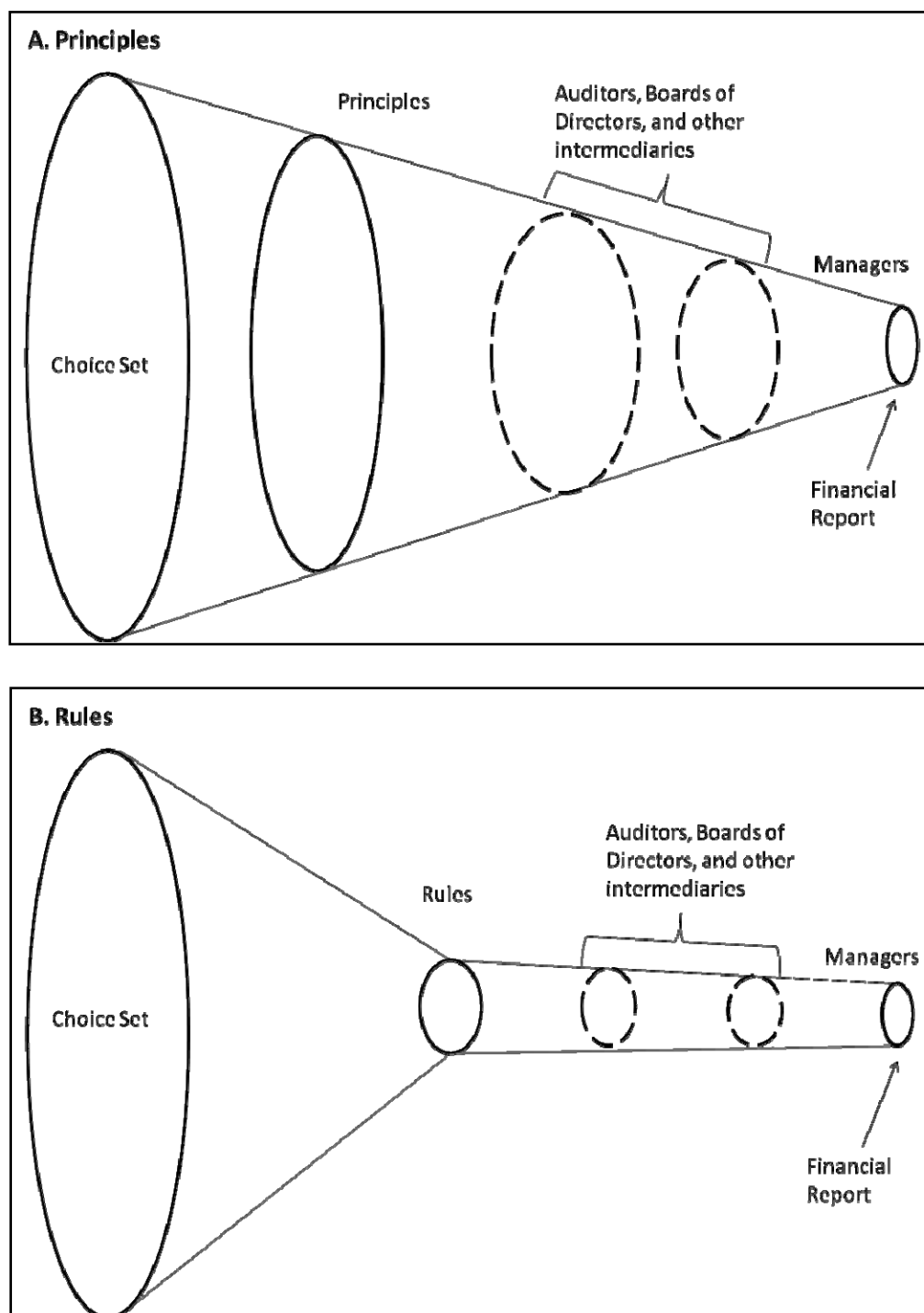
¹²⁰ For example, to the extent that conditional conservatism is likely to be useful in mitigating managers’ incentives to make value-destroying investment decisions (LaFond and Roychowdhury, 2007), and because it is costly to write explicit contracts that govern these types of decisions, there is a demand for both using the general purpose financial statements to evaluate managers’ decisions and to make those statements conditionally conservative to some degree.

contracting parties to include these features in private contracts.¹²¹ That is, as Armstrong, Guay and Weber (2010) point out elsewhere in this issue, we need to understand more about *why* certain accounting attributes (such as conservatism and earnings timeliness) are valuable in certain contractual settings.

4. The efficient-contracting perspective (e.g., Holthausen and Watts, 2001) predicts that intangibles (especially internally-developed intangibles and goodwill) are unlikely to be usefully included in balance sheets (see Section 3). Although early work (Leftwich, 1983) is consistent with the idea that private contracts tend to adjust general purpose financial statements to remove certain intangibles from calculations of net assets, recent work (Frankel, Seethamraju, and Zach, 2008; Beatty, Weber, and Yu, 2008) seems inconsistent with this general prediction. In Section 3, we conjecture that goodwill capitalization and amortization can be useful in holding managers accountable for mergers and acquisitions. Given the importance of accounting for intangibles, this is likely to be a fruitful area for future research.

¹²¹ Beatty, Weber and Yu (2008) is an example of some recent work that provides evidence on the tradeoff between making adjustments in the general-purpose financial statements versus in private contracts.

Figure 1
A pictorial comparison of principles- and rules-based accounting



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